

***United States Court of Appeals
for the
District of Columbia Circuit***



**TRANSCRIPT OF
RECORD**

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APPENDIX TO APPELLANT'S BRIEF

Joseph W. Stewart

CLERK

IN THE
United States Court of Appeals
FOR THE DISTRICT OF COLUMBIA

No. 8487

44

CHERRY-BURRELL CORPORATION.

Appellant,

vs.

CONWAY P. COE, COMMISSIONER OF PATENTS,

Appellee.

**Appeal From the District Court of the United States for
the District of Columbia.**

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**427 W. Randolph Street,
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**1 COMPLAINT TO ENFORCE THE ISSUANCE
OF LETTERS PATENT.**

1. Plaintiff, Cherry-Burrell Corporation, is a corporation incorporated under the laws of the State of Delaware, with administrative offices at 427 West Randolph Street, Chicago, Illinois, and Defendant, in his official capacity, is a resident of the District of Columbia. The action arises under United States Code, Title 35, Section 63 (Revised Statutes, Section 4915) as amended, as hereinafter more fully appears.

2. Application Serial No. 141,084 for Letters Patent of the United States was filed in the United States Patent Office on May 6, 1937, on an original joint invention by Carl L. Trier and Jesse W. Fogg for the improvement in "Bottle Washing Machinery" set forth in said application. The improvement in "Bottle Washing Machinery"

constituting the said invention is particularly pointed out in allowed Claims 5, 8, 10, 12, 13, 14, 15, 16, 17, 18, 19, 39, 54, 55 and 56 and in rejected Claims 1, 4, 6, 7, 52 and 53. All conditions precedent to the issuance of Letters Patent of the United States on the aforesaid application for the invention embraced in said claims, according to the laws of the United States and the Rules of Practice of the Patent Office in such cases provided, have been complied with as will fully appear by a duly certified copy of 2 said application and the proceedings in the Patent Office thereon ready here in court to be produced and profert whereof is hereby made. Plaintiff, Cherry-Burrell Corporation, became and still is the sole owner of the entire interest in the aforesaid application Serial No. 141,084 and the patent to be granted on said invention by virtue of an assignment from said joint inventors, Carl L. Trier and Jesse W. Fogg, to the Plaintiff, executed by said Carl L. Trier and Jesse W. Fogg on May 14 and 17, 1937, respectively, and recorded in the United States Patent Office on May 20, 1937, in Liber V170, Page 433.

3. Defendant, the Commissioner of Patents, acting through the Examiner, after due proceedings had, erroneously entered a final rejection in the aforesaid application on October 19, 1939, rejecting each and all of Claims 1, 4, 5, 6, 7, 8, 9, 10, 15, 16, 19, 39, 52, 53 and 54 as being considered unpatentable over the references of record for the reasons of record and further rejecting Claims 20 to 37 inclusive, 40 to 46 inclusive and 49 to 51 inclusive on the grounds of misjoinder of unelected species. In an amendment filed April 27, 1940, Claims 20 to 37 inclusive, 40 to 46 inclusive and 49 to 51 inclusive were cancelled without prejudice, the subject matter of those claims having been described and claimed in divisional applications and, in an amendment filed April 19, 1940, with an appeal to the Board of Appeals from said final action of the Primary Examiner rejecting the above numbered claims, as aforesaid, applicants cancelled Claim 9. On appeal taken to the Board of Appeals, but before consideration by the Board of Appeals, the Examiner indicated that Claims 10, 16 and 39 had been rendered patentable by an amendment filed after final rejection.

3 The Board of Appeals, on January 25, 1941 erroneously affirmed the decision of the Examiner rejecting each of Claims 1, 4, 6, 7, 52 and 53. The Board of Appeals in its same decision reversed the decision of the Examiner in which the Examiner had rejected Claims 5, 8, 15, 19 and 54. A request filed July 8, 1941, for reconsideration by the Board of Appeals of its decision dated January 25, 1941, was denied July 16, 1941, and the Commissioner of Patents still refuses to grant Letters Patent to the Plaintiff upon the aforesaid application for the invention embraced in Claims 1, 4, 6, 7, 52 and 53 although Plaintiff is lawfully entitled thereto. The Examiner, subsequent to the decision of the Board of Appeals and before the Board of Appeals denied the petition to reconsider its decision of January 25, 1941, in an Office Action dated March 12, 1941, refused to enter an amendment submitted by the applicants March 6, 1941, in which the applicants offered to amend Claims 1, 4, 6, 7 and 52 and to cancel Claim 53, and submitted an additional Claim 57 directed to the same patentable subject matter as Claim 1 of United States Letters Patent No. 2,210,529, granted August 6, 1940, and requested that an interference between applicants' above identified application and patent 2,210,529 be declared.

4. The rejected claims enumerated in paragraphs 2 and 3 read as follows:

1. In a device of the character described, the combination with laterally spaced conveyor elements, of a series of rigid work supporting frames connected at their respective ends with said elements, each of said frames having side walls and transversely extending partition means defining work receiving openings, and bottle-gripping and supporting jaws carried by the respective frames in association with each of the respective openings for supporting work out of contact with said frame sides and partition means, one of the jaws associated with each of the openings being movable and each of the movable jaws being movable independently of the remaining movable jaws.

4 4. In a bottle washer, the combination with laterally spaced conveying elements, of a frame connected at its ends with said elements and having side bars and intervening partitions forming at least one opening, jaw

members connected to the partitions at opposite sides of the opening and relatively and independently movable in a direction transverse with respect to the movement of said conveyor elements, said jaw members having bottle-engaging portions spaced from the frame formed to fit a bottle adjacent the mouth thereof, spring means urging one of said jaw members toward the other with sufficient force to enable said jaw members to comprise the sole support for a bottle in said opening to maintain said bottle normally out of contact with said frame and partitions.

6. In a bottle washing machine, the combination with a conveyor provided with a series of clamping means for positively retaining bottles, of means disposed in the path of clamping means advance for contacting and mechanically releasing successive clamping means, and means disposed in the path of advance of said clamping means when mechanically released for supporting bottles in proper position to be clamped by said clamping means.

7. In a bottle washing machine having bottle discharging and bottle receiving stations, of an endless conveyor adapted to move bottle-engaging clamping means successively past said stations, a series of bottle-engaging clamping means carried by the conveyor, cam means at such stations for contacting said clamping means and mechanically effecting a release of said clamping means for the discharge of one bottle and the reception of another, and means disposed in the path of advance of said clamping means when mechanically released for supporting bottles in clamping position.

52. A device of the character described comprising, in combination, laterally spaced conveyor elements, rigid unitary work supporting frames connected at their respective ends to said conveyor elements, each of said frames carrying a work holding jaw adapted to co-act with a complementary work holding jaw carried by each of said frames respectively, one of said jaws being movable with respect to said frame and the other jaw, and means continually urging each of said movable jaws to the work supporting position and independent of the movement of any other movable jaws and with sufficient force to adapt said jaw for holding work in said work supporting jaws free of contact with said frames or conveyor elements.

5 53. In a bottle washing machine, the combination with a conveyor including a frame providing a bottle receiving opening, of a hinged jaw element connected to said frame to engage a bottle adjacent the mouth thereof, and a complementary fixed jaw element connected to said frame, said complementary jaws comprising the sole support for a bottle in said opening independently of other portions of the conveyor, said hinged jaw having spring means urging it toward the other jaw with sufficient force to retain the bottle and prevent relative movement between the bottle and said jaws while the bottle is supported by said jaws.

5. The rejected claims enumerated in paragraphs 2 and 3, when amended in compliance with the applicants' offer in the amendment submitted March 6, 1941, read as follows:

1. In a device of the character described, the combination with laterally spaced conveyor elements, of a series of rigid work supporting frames connected at their respective ends with said elements, each of said frames having side walls and transversely extending partition means defining work receiving openings, and bottle gripping and supporting jaws carried by the respective frames in association with each of the respective openings for supporting work out of contact with said frame sides and partition means, each of said gripping and supporting jaws having bottle gripping faces removed from the supporting frame and being complementary to the outer periphery of a bottle about the mouth thereof, one of the jaws associated with each of the openings being movable and each of the movable jaws being movable independently of the remaining movable jaws.

4. In a bottle washer, the combination with laterally spaced conveying elements, of a frame connected at its ends with said elements and having side bars and intervening partitions forming at least one opening, jaw members connected to the partitions at opposite sides of the opening and relatively and independently movable in a direction transverse with respect to the movement of said conveyor elements, said jaw members having bottle-engaging portions spaced from the frame formed to fit a

bottle about the mouth thereof, and spring means urging one of said jaw members toward the other with sufficient force to enable said jaw members to comprise the sole support for a bottle in said opening to maintain said bottle normally out of contact with said frame and partitions.

6. In a bottle washing machine, the combination with a conveyor provided with a series of clamping means for positively retaining bottles, of means disposed in the path of clamping means advance for contacting and mechanically releasing successive clamping means, and independent means disposed in advance of the location of the mechanical releasing means in the path of advance of said clamping means when mechanically released for supporting bottles in proper position to be clamped by said clamping means.

7. In a bottle washing machine having bottle discharging and bottle receiving stations, of an endless conveyor adapted to move bottle-engaging clamping means successively past said stations, a series of bottle-engaging clamping means carried by the conveyor, cam means at such stations for contacting said clamping means and mechanically effecting a release of said clamping means for the discharge of one bottle and the reception of another, and independent means disposed in the path of advance of said clamping means when mechanically released and positioned at the bottle loading station for supporting bottles in clamping position.

52. A device of the character described comprising, in combination, laterally spaced conveyor elements, rigid unitary work supporting frames connected at their respective ends to said conveyor elements, each of said frames carrying a work holding jaw adapted to co-act with a complementary work holding jaw carried by each of said frames respectively, one of said jaws being movable with respect to said frame and the other jaw, means continually urging each of said movable jaws to the work supporting position and independent of the movement of any other movable jaws and with sufficient force to adapt said jaw for holding work in said work supporting jaws free of contact with

said frames or conveyor elements, a bottle loading and a bottle unloading station, cam means for opening said complementary jaws at said stations, and independent means in the path of travel of the necks of said bottles at said loading station for supporting a bottle in position for jaw engagement until the jaws have become disengaged from said cam means.

6. Claim 57 reads as follows:

7 57. In a bottle washing machine, a casing, an endless conveyor for substantial longitudinal travel in said casing, a plurality of pivotally connected, transversely extending flights having bottle neck receiving openings therein, movable bottle neck grippers carried by said flights for releasably gripping bottle necks when in one position and for releasing said bottle necks when in another position, means for automatically moving said movable grippers carried by said flights at certain predetermined times, and means rigidly secured to said casing and independent of the conveyor and disposed in the path of travel of the bottles for elevating the bottles in the conveyor to a bottle locking position.

Wherefore, Plaintiff brings this complaint and prays that the Honorable Court:

1. Adjudge that the Plaintiff, Cherry-Burrell Corporation, is entitled, according to law, to receive Letters Patent of the United States for the aforesaid invention as specified in the application hereinbefore referred to including, in addition to the allowed claims, Claims 1, 4, 6, 7 and 52, and additional claims like Claims 1, 4, 6, 7 and 52 when amended as set forth in paragraph 5 of this complaint, and such other claims as, upon hearing, the court may find patentable.

2. Direct and authorize Defendant, the Commissioner of Patents, to issue such Letters Patent.

3. Grant such other and further relief as the court may deem proper in the premises.

4. Issue out of and under the seal of the court a summons directed to Conway P. Coe, Commissioner of Patents of the United States, requiring him to appear and

answer under this complaint and abide the further order of this court.

Cherry-Burrell Corporation,
By Norman E. H. Deletzke,
Attorney of Record for Plaintiff.

James H. Littlehales,
Solicitor and of Counsel.

Filed on behalf of Cherry-Burrell Corporation, a Delaware corporation, 427 West Randolph Street, Chicago, Illinois.

Endorsed: Filed July 24, 1941. Charles E. Stewart, Clerk.

8 ANSWER TO THE COMPLAINT.

To the Honorable the Justices of the District Court of the United States for the District of Columbia.

1. Defendant admits the allegations of paragraph 1.
2. He admits that there was filed in the Patent Office on May 6, 1937, an application for patent by Carl L. Trier and Jesse W. Fogg and that said application was entitled "Bottle Washing Machinery" and was given Serial No. 141,084. He admits that the invention disclosed in said application is particularly pointed out in allowed claims 5, 8, 10, and 12 to 19, inclusive, 39, 54, 55 and 56. He denies that said invention is particularly pointed out in rejected claims 1, 4, 6, 7, 52 and 53. He denies that all conditions precedent to the issuance of a patent on said application have been complied with. He admits the allegation of ownership of said application by plaintiff.

9 3. He admits the allegations of paragraph 3 with the following exceptions:

He denies that the examiner's action in rejecting any of the claims except claims 5, 8, 15, 19 and 54 was erroneous. He denies that the Board of Appeals acted erroneously in affirming the decision of the examiner in rejecting claims 1, 4, 6, 7, 52 and 53 of said application. He denies that plaintiff is lawfully entitled to receive a patent containing any of said claims since it is deemed that the said

claims are unpatentable in view of the following prior patents and for the reasons given in the statement of the examiner in answer to the appeal and the decision of the Board of Appeals, copies of which will be furnished at the trial:

Goldman,	1,012,843,	Dec. 26, 1911,
Wachs <i>et al.</i> ,	1,213,308,	Jan. 23, 1917,
Andersson,	1,577,092,	Mar. 16, 1926,
Herold <i>et al.</i> ,	1,824,993,	Sep. 29, 1931,
Wynne <i>et al.</i> ,	1,934,250,	Nov. 7, 1933,
Lozowsky,	1,789,684,	Jan. 20, 1931,
Ruprich, German,	524,003,	May 1, 1931.

Profert of copies of these patents is hereby made.

He denies that claim 57, which was presented by plaintiff in a proposed amendment on March 6, 1941, is directed to the same patentable subject matter as claim 1 of patent 2,210,529.

4. He admits that claims 1, 4, 6, 7, 52 and 53 of said application are as set out in paragraph 4.

5. He admits that claims 1, 4, 6, 7 and 52 as set out in paragraph 5 are in the form corresponding to the proposed amendment submitted on March 6, 1941. He states that said proposed amendment was refused entry by the Patent Office and denies that the claims set forth in 10 this paragraph are properly before the court for consideration.

6. He admits that claim 57 presented in the proposed amendment of March 6, 1941, is as set out in paragraph 6. He states that this claim was refused entry by the Patent Office and denies that it is properly before the Court for consideration.

W. W. Cochran,
Solicitor, U. S. Patent Office,
Attorney for Defendant.

August 15, 1941.

I hereby certify that a copy of this Answer To The Complaint was mailed today, August 15, 1941, to the attorney for plaintiff, James H. Littlehales, National Press Building, Washington, D. C.

W. W. Cochran,
Solicitor.

Endorsed: Filed Aug. 15, 1941. Charles E. Stewart,
Clerk.

July 16, 1941.

* * * * *

23 PLAINTIFF'S EVIDENCE.

JAMES C. BOYLE, produced, sworn, and examined as a witness on behalf of the plaintiff, testified as follows:

By the Clerk:

Q. State your full name, please, sir. A. James C. Boyle.

Direct Examination by Mr. Deletzke.

Q. Where are you employed? A. United States Soldiers Home.

Q. In what capacity are you employed at the United
24 States Soldiers Home? A. I am the chief clerk of the Quartermaster Department.

Q. Incidental to your duties as such chief clerk, is it your responsibility to purchase equipment? A. Yes; it is.

Q. Did you ever purchase a bottle-washer for the United States Soldiers Home? A. I did.

Q. What kind of a bottle-washer did you purchase?
A. What is known as the Baltimore soaker type.

Q. When did you purchase that bottle-washer? A. About January 1941.

Q. Is the bottle-washer still in use? A. It is.

Q. Do you know the name of the manufacturer of the bottle-washer? A. Cherry-Burrell company.

Q. I hand you now a bulletin, which I will ask be marked as the Plaintiff's Exhibit 1, which purports to be a publication published by the Cherry-Burrell Corporation. Does

that disclose the type of bottle-washer which you purchased from the Cherry-Burrell Corporation? A. Yes, sir; it does.

25 Q. Was there anything about the Baltimore soaker type of washer which you did purchase, which impressed you as an advantageous feature? A. Well, there is one. There was two or three things. One, of course, was its compactness, and the different features of it, and the washing features of it, the soaking, the rinsing, the chlorine treatment. Also, I looked carefully at the thing, the holding of the bottle in the machine—that is, in the fingers going across the machine. I looked at one machine which was comparable in size and in operation as far as I could see, and that was shown at an exhibit in Atlantic City that was put on by the Dairy Equipment Manufacturers back in the fall I think of '40. It must have been in that, because I purchased this machine in January '41, and I attended this exhibit several months or a month or so before I made the purchase. I knew that the bottles had to go through a regular routine, and examined it carefully, by—of course naturally one of the things that I was afraid of was what would happen to the bottles if they dropped off; that's about the only thing—that, and the machine going through—the soaking, the rinsing, the
26 final treatment of the chlorine, which had been impressed upon me by Mr. Kelly, the Agricultural Department expert. That's about all that I can tell you, sir.

Q. Have the type of bottle-supporting or gripping elements which you referred to worked satisfactorily to the best of your knowledge? A. I think so, yes, considering the number of bottles which go through. They go through almost in revolution you might say, up-side-down sometimes, straight up sometimes.

Q. In other words, are the bottles turned in various types of positions, such as inverted, and then re-inverted? A. Yes, they are.

Q. Are they to your knowledge supported by any other means in the washer besides the gripping jaws? A. Not that I know of; no, sir.

Q. Have you ever seen another bottle-washing machine

which has gripping jaws such as provided in that machine?
 A. The only one that I saw that would be comparable to this machine—that is, in the way of shape and operation—was put out by Wright, I don't know their address; I think it is up in New England. Their type of holder was a kind of a basket affair where a man shoved it in, and the type of this machine which was demonstrated to me down there—I mean, in Baltimore, at least, later—had this claw type. That did appeal to me more than the basket type.

* * * * *

27 *Cross-Examination by Mr. Cochran.*

Q. Is that machine that they use at the Soldiers Home used in connection with the dairy there? A. Yes, sir; it is.

Q. Did you ever have any experience with other bottle-washing machines before this one? A. No, sir.

Mr. Cochran: That is all.

(Witness excused.)

JESSE W. FOGG, produced, sworn, and examined as a witness on behalf of the plaintiff, testified as follows:

By the Clerk:

Q. State your full name, please. A. Jesse W. Fogg.

* * * * *

Direct Examination by Mr. Deletzke.

* * * * *

Q. By whom are you employed, Mr. Fogg? A. Cherry-Burrell Corporation.

* * * * *

Q. How long have you been employed in the
 28 Cherry-Burrell Corporation? A. Ten years.

Q. What have been your duties generally speaking while employed by them? A. Generally speaking, sales promotion.

Q. Did you promote the sales of any particular types of

machines? A. Soaker type washers, conveyors, bottle-fillers, principally.

Q. Prior to your employment by the Cherry-Burrell Corporation, where were you employed? A. Stout Manufacturing Company, Menominee Falls, Wisconsin.

Q. What did the Stout Manufacturing Company manufacture? A. Soaker type bottle-washers and bottle-conveying equipment.

Q. Generally speaking, are the soaker-type washer manufactured by the Stout Manufacturing Company and the soaker type washer manufactured by the Cherry-Burrell Corporation the same general type of machine? A. Generally speaking.

Q. Are you one of the joint inventors in the application for United States letters patent, serial number 141,084, filed May 6, 1937, and entitled "Bottle-Washing Machine"?

A. One of them; yes.

Q. Who was the other inventor? A. Carl Trier. I can't recall his middle initial.

Q. Was that Carl L. Trier? A. Carl L. Trier.

* * * * *

29 Q. Generally can you explain to me the aspect of your invention which you understand is involved in this action today? A. It was the design of a bottle-holder that clamped the bottle by the finish and held it rigidly so that by that means it was carried through a bottle-washing machine regardless in what position it might happen to be in. No other means of support was necessary outside of the clamping device.

* * * * *

30 Q. Is there anything in the present invention in addition to the gripping jaws which you understand constitutes any of the elements of the claims being considered by the court? A. The means of holding a bottle in position when it is being fed into the holding jaws—the spring that held the mouth of the bottle in the position so that when the closing jaws left the cams the mouth of the bottle was in the position so that the jaws would clamp it, or the "finish of the bottle" probably would be better than the "mouth of the bottle"—the finish of the bottle.

Q. You mentioned cams. What cams do you refer to?

A. There are two stationary cams in some instances and one in another, that open these jaws to release the bottle. In other words, it opens the gripping jaws so that the bottle can be taken out of the carrier or pocket; the other cam closes the jaws, which allows the jaws to grip the finish of the bottle and hold it rigidly.

* * * * *

Mr. Deletzke: I now offer in evidence the plain-
31 tiff's exhibit No. 1.

* * * * *

Mr. Cochran: No objection.
(The publication referred to was received in evidence as PLAINTIFF'S EXHIBIT 1.)

By Mr. Deletzke:

Q. I now hand you a certified copy of the Carl L. Trier and Jesse W. Fogg application for United States letters patent, serial No. 141,084, and ask that it be marked as plaintiff's exhibit No. 2 for identification.

The Court: If there is no objection you can offer it in evidence now. No objection?

Mr. Cochran: No objection.

Mr. Deletzke: I offer exhibit 2 in evidence.

The Court: Very well.

(The certified copy of Trier-Fogg application No. 141,084 was received in evidence as PLAINTIFF'S EXHIBIT 2.)

* * * * *

32 Mr. Deletzke: I now offer plaintiff's exhibit 3 in evidence.

Mr. Cochran: No objection.

(The three sheets referred to from the Baltimore Soaker Bottle Washer Sales Manual were received in evidence as PLAINTIFF'S EXHIBITS 3, 3-A, and 3-B.)

By Mr. Deletzke:

Q. I now direct your attention to claim No. 1 of your application, serial number 141,084.

Mr. Deletzke: Will Your Honor approve of my having the witness read my copy of the application?

The Court: That is proper.

A. Read it to myself, or read it out loud?

Mr. Deletzke: Just read it to yourself.
(The witness reads, as requested.)

By Mr. Deletzke:

Q. I now direct your attention to copy of the Wynne patent number 1,934,354. Will you tell me what there is called for in claim 1 which is not shown in the Wynne patent, if anything? A. Which is not shown, you say?

Q. Yes. In other words, distinguish claim 1 from the Wynne patent. A. Two distinctly different types of carriers. In that claim 1, in the claim 1 there, it is a carrier that rigidly grips the bottles by the finish or bead and supports it and carries it around through the entire machine without any other means of helping to keep it in the carrier or keeping it in position.

33 Q. Will you read from claim 1 the clause which calls for such a supporting means as you just described? A. "Transverse"—you want the whole paragraph?

Q. Just the clause that relates to the gripping means of the type which you have described. A. "Transversely extending partition means defining work receiving openings, and bottle-gripping and supporting jaws carried by the respective frames in association with each of the respective openings for supporting work out of contact with said frame sides and partition means, * * *."

Q. Now, does the patent to Wynne show bottle-gripping and supporting jaws? A. No, sir.

Q. In what manner is the bottle supported in the patent to Wynne? A. On all milk bottles there is a common diameter. Now we are talking back when this machine was built and in use, back in 1932 and '33.

Q. Which machine do you mean? A. The Wynne machine. And at that time, the conventional size of milk bottles was quart, pint, and half pint, all more or less of a standard design, with a border or opening known as a No. 2 or a "common cent" finish on all bottles regardless of the size. At some point below the bead on what might be called the "neck" of the bottle there was a common diameter on all three sizes. Therefore a pocket could be made whereby it was supported when it was in the inverted position by contacting the bottle at that common diameter on any of the three sized bottles.

34 Q. Was that common diameter ever the bead around the mouth of the bottle? A. Never was the bead around the mouth of the bottle. Well, now—yes, that was—the common diameter on all sized bottles was the same. In other words it was a 56 mm. opening and it was the same on a quart, pint, and half pint, and did not deviate from that.

Q. But that common diameter you just stated was always positioned between the mouth or the bead of the bottle and the large body part of the bottle? A. And the body part of the bottle.

Q. In other words, somewheres back of the neck of the bottle? A. Somewheres on the diameter. In other words, in making the bottles, the mouth and the necks are made separate of the bodies, and the same amount of glass goes into them to a large extent.

Q. In the patent to Wynne was the bottle gripped by the mouth or the bead, or was it gripped at all? A. It was not gripped at all.

Q. In the conventional type of bottle-washer, what type of means is provided for supporting the bottle? A. In general it is a pocket that has a nose in it, and the mouth or the bead of the bottle contacts the nose of the pocket and prevents it from going farther through, or holds it in the pocket.

Q. Does it rest in such a pocket, that is, as it would rest in a sack, let us say? A. Similar to it. It is enclosed in metal. The bottle would be enclosed by metal, the nose of the bottle resting, or the mouth of the bottle resting on the nose of a pocket.

35 Q. Would the bottle be free to shift around in such a conventional pocket? A. Sideways, in all directions, to a small extent, excepting when it is inverted—in the normal upright position, then it will drop down as far as the bottom of a bottle-washer would let it out of the bottom or the carrier that is carrying it.

Q. Now, the pocket shown in the patent to Wynne—could the bottle fall out of the pocket at any time during its travel through the washer? A. If the bottle was too small in height as compared to the diameter of this pocket, then the bottle would turn over and fall out of this pocket.

Q. In other words, the bottle was free to slide and move

around in the pocket, it was not rigidly held? A. That is right. In going through the submerging treatment the bottle drops whatever distance there is between the false bottom and the pocket.

Q. Will you read to me from the Wynne patent, the paragraph on page 3, commencing with line 22? A. "A series of flat metal strips 73 are secured by angle members 74 in the tank and underlie the path of movement of the bottle carriers of the conveyor. These strips are provided so that the bottom of the bottles may rest on the same as the bottles are moved to the soaking bath and to prevent dislodgement of the bottles should some of such bottles be smaller than the carriers. The strips 73 are curved upwardly at each end to conform with the path of movement of the conveyor through the soaking tanks."

36 Q. From your understanding of the Wynne patent and your familiarity with the machines which were built in keeping with the disclosure of the Wynne patent, was such a strip necessary to keep any size of bottle from falling out of the bottle pockets of the Wynne patent?

A. It was, and that was general practice on all soaker-type washers at that time.

Q. In other words, if that strip was not provided, the bottle would fall out of the pocket into the bottom of the machine? A. Either a strip known as a "false bottom" or the bottom of a soaker-type washer itself has to be close enough to the conventional type of pocket, or the pocket that is commonly used today, or the bottle will fall out of the pocket, in varying sizes. No pockets used today clamp rigidly and hold rigidly which will carry a bottle through a soaking solution without some means of support on the bottom of the bottle to maintain and keep it in its carrier.

Q. Do you mean to include in that statement that no bottle-washers are made today which do that—do you mean to include your own invention, or do you mean to except your own invention? A. Except the Baltimore. Well, there is one other today, there is one other machine that does it, but not by rigidly clamping the bead of the bottle—and the Baltimore.

Q. In the Baltimore washer, do you provide skids or slides below the pockets so that the bottles cannot fall out of the pocket? A. None whatever.

Q. Have you ever seen bottle pockets out in commercial use which are manufactured in keeping with the disclosure of the pocket shown in figure 6 of the Wynne patent? A. Will you ask me that question again? Have I ever seen bottle pockets?

(The question was read by the reporter.)

A. None but this machine itself.

Q. You have seen it on the Wynne type machine? A. I have seen it, yes, on those machines.

Q. Will you sketch for me a milk bottle of the conventional type which is provided with the uniform diameter between the bead and the neck at the body of the bottle as you mentioned before, and show its relative position when it would be held in a pocket such as the Wynne pocket?

A. (The witness draws a sketch as requested.) Where do you want it, now?

Q. Will you mark for me by the letter "A" on the middle bottle the point which you identify as the "common diameter"? A. (The witness does as requested.)

Q. Will you mark for me by the letter "B" the two fingers of the Wynne pocket which contact the bottle, the middle bottle? A. (The witness does as requested.)

Q. In your understanding is the pocket which you have sketched an enlarged and a correct representation of the bottle pocket and the relative arrangement of the pocket to the bottle the same as that or approximately the same as that shown in figure 4 of the patent to Wynne? A. Well, it is an idea of it. It is not a detailed sketch of it. That gives the idea of why the Wynne patent pockets are made the way they are.

38 Q. Does it show the basic difference between the Wynne type of pocket and the gripping jaws shown in your application? A. It does.

Q. Now, in your opinion if pockets of the type which you have sketched were used in a bottle-washer and the conveyor equipped with such pockets was passing through the bottom of the bottle-washer in which the mouth of the bottle was turned upwardly, would the bottles drop out of such pockets by their own weight unless retaining strips were provided in the bottom of the bottle-washer tank? A. They would.

Mr. Deletzke. I now ask that the sketch drawn by the

witness be marked as plaintiff's exhibit 4, and I offer the same in evidence.

Mr. Cochran: No objection.

(The sketch drawn by the witness, referred to, was received in evidence as PLAINTIFF'S EXHIBIT 4.)

By Mr. Deletzke:

Q. I direct your attention to lines 13, 14, and 15 of the Wynne patent No. 1,934,250, which read: "The present machines grip the bottles by crown for movement through the machines, thus necessarily contaminating to some extent the crowns of the bottles." Is it your understanding that in a washer built according to your invention the bottles are gripped by the crown or the beads? A. By the beads or the "finish", whatever the term.

Q. That may also be referred to as the "crowns"?

A. That might not correctly—might correctly be referred to as a "crown." I never heard it that way before.

39 Q. Now, is it your understanding that in the Wynne machines the bottles are gripped by the crown? A. They are not gripped by the crown.

Q. Are they gripped at all? A. No gripping at all in the Wynne machine. If they were gripped it could not drop on to these false bottoms.

Q. In the Wynne patent, page 1, lines 26 and on, it reads as follows:

"The machine of the present invention on the other hand will without adjustment wash bottles of different sizes and also convey the bottles through the machine by engagement of the body of the bottle, leaving the crowns free and ejecting or unloading the bottles from the machine by pressure applied to the bottoms of the bottles."

It is your understanding that the commercial machines built according to the Wynne patent were of the type which supported the body by engaging the body of the bottle instead of the crown? A. That is right.

Q. That is in keeping with the sketch which you just made, which we identified as plaintiff's exhibit 4? A. The pockets of the Wynne flare out and are of a greater diameter at the nose of them than the crown or the finish of any bottle, otherwise they couldn't come out, drop out of the pocket or move in the pocket as they go through the soaking solution.

Q. Is it then your opinion that the reason for the provision of the retaining strip 73 as shown in figure 4 of the Wynne patent is to hold or retain the bottles in the Wynne type of bottle pocket because the restricted throat of 40 the pocket is greater than the outer diameter of the crown or bead of the bottle? A. Yes, that is the only means of conveying the bottles through that soaking solution that they have. By that I mean this—those bottles have a movement in those pockets up or down according to the position that they might be in in traveling through the machine. When they go through the soaking solution in the upright position they drop because there is a space between the bottom of the pocket and the bottom or “false bottom” of the machine, and if that space was sufficiently large enough those bottles would drop right out of that pocket. Now in order to convey those bottles the length of the machine that space between the pocket and the bottom of the machine or the “false bottom” has to be enough to take care of variation in the sizes of bottles and in proportion to the various sizes we use. Therefore they have to move. Now, if they were not—if there wasn’t some means of conveying those bottles and holding them in position, why they couldn’t travel through the soaking tank, therefore the pockets or carriers are the means of pushing them along and in contacts with the sides of the bottles.

Q. And the bottles are supported on what? A. On a false bottom or a bottom of the machine, or strips, whichever it might be.

Q. They are not supported then by the pocket? A. No, sir.

Q. That is when they move through the bottom of the washer? A. That is right.

Q. Now, when they move through the top of the 41 washer, how are they supported? A. They are supported by the breast of the bottle contacting the pocket.

Q. And by the “breast” of the bottle you mean the enlarged part of the bottle immediately above the support, we will say? A. I mean the large part of the bottle above the mouth of the bottle or the neck of the bottle.

Q. Above the mouth? A. Above the mouth—below the mouth and above the body of the bottle. You see,

those bottles that have dropped down there as they go through the soaking tank do not stay in that position as they come back towards the front of the machine again. They come back again, and drop down into the pocket again in that position, and drop far enough to contact that common diameter on a milk bottle.

Q. In other words, you agree with the objectives as I quoted to you from the Wynne patent, that in the Wynne machine the bottles are never supported by the crown of the bottle? A. Yes, are never supported by a crown or finish.

Q. I direct your attention first to the German patent to Ruprich, No. 524,003. Does the patent to Ruprich disclose "laterally spaced conveying elements"? A. No, it does not.

Q. Does it disclose rigid work supporting frame connected at its ends to such conveyor elements? A. Not according to this drawing.

Q. Does it show "work supporting frame having transversely extending partitions"? A. No.

42 Q. Does it show "jaws associated with opening in a work supporting element for gripping some portion of a bottle"? A. I would say it did.

Q. How many such jaws does the figure of the Ruprich patent show? A. I would think it was four.

Q. In your opinion, based solely on the disclosure of that figure, are any of those jaws independently movable, or are they all movable— A. According to the way I read the drawing here they are not. They all four move at the same time.

Q. Is there any means shown for moving any of the jaws? A. Independent?

Q. Or any means for actually causing the motion there? Can you see any means in the figure for actually moving any one of the jaws? A. Not independently of the other one. They all move together collectively.

Q. Is there any means shown for actually making the jaws move as shown in that figure, or would something have to be added to that figure, that disclosure, before those jaws would move or could be moved? A. I wouldn't know how they would move from this drawing here, I couldn't tell.

Q. In your opinion there is nothing shown as to how those jaws would be actuated? A. No.

Q. I now direct your attention to claim 4 of your application involved in this action, which includes the following recitations:

43 " * * * of a frame connected at its ends with said elements having side bars and intervening partitions forming at least one opening, jaw members connected to the partitions at opposite sides of the opening and relatively and independently movable * * * said jaw members having bottle-engaging portions spaced from the frame formed to fit a bottle adjacent the mouth thereof, spring means urging one of said jaw members toward the other, with sufficient force to enable said jaw members to comprise the sole support for a bottle in said opening to maintain said bottle normally out of contact with said frame and partitions."

Claim 4 was rejected, as the contents of the file wrapper offered in evidence will show, on the patent to Wachs, No. 1,213,308, reference being made particularly to figures 6 and 7 thereof, and for our purposes we will consider any figure disclosed in the patent. Claim 4 was also rejected for the disclosure of the patent to Ruprich.

Directing your attention now to the disclosures of figures 4, 5, 6 and 7 of the patent to Wachs, does it disclose a bottle-carrier having side bars and intervening partition means?

A. No, I do not think it does.

Q. Does it disclose bottle-engaging jaw members connected to such partitions? A. No.

Q. Does it show a bottle-engaging jaw which is adapted to grip the bottle around the mouth of the bottle? A. No, above—below the mouth.

Q. Would that be on the neck of the bottle? A. That would be on the neck of the bottle as shown here.

44 Q. Does it disclose jaw means which comprise the sole support for the bottle? A. No.

Q. What else is there disclosed in the Wachs patent which will support the bottle? A. The bottle in the inverted position is held by contacting a funnel-shaped mechanism there, that—

Q. Will you give the identifying number from figure 4 or 5? A. Figure 4. 19, I would say.

Q. 19 is the number which identifies the funnel shape?

A. Evidently the neck of the bottle contacts the shape of a funnel there, the common diameter again.

Q. In your opinion would the movable jaw members of the disclosure of the Wachs patent tend to lock the bottle in the funnel-shaped support? A. Yes.

Q. When the jaws were closed? A. Yes.

Q. Would the bottle still be movable in a vertical direction even though the jaws were locked, directing your attention now particularly— A. From this drawing I wouldn't say it would be movable.

Q. Directing your attention now particularly to figure 4 and to figure 5, in figure 4 the bottle is inverted, and in figure 5 the bottle is right side up. Would you say that there has been any relative motion of the bottle with respect to the funnel-shaped element? A. According to the drawing there has been here a motion. In the right 45 position it drops down.

Q. In other words, according to the disclosure of figures 4 and 5 of Wachs, the bottle is movable— A. That's right.

Q. —and can slide, even though it is locked, in the Wachs type of bottle support? A. That's right.

Q. Referring to the Ruprich patent, do you find in there any spring means for independently moving any one of the plurality of bottle-gripping jaws? A. No; none whatever.

Q. I direct your attention now to claim 6 of your application involved in this application for patent, involved in this action. Claim 6 reads as follows:

"In a bottle-washing machine, the combination with a conveyor provided with a series of clamping means for positively retaining bottles, with means disposed in the path of clamping means advance for contacting and mechanically releasing successive clamping means, and a means disposed in the path of advance of said clamping means when mechanically released for supporting bottles in proper position to be clamped by said clamping means."

Will you now look at the disclosure of the patents to Wachs and tell me whether that patent discloses a means disposed in the path of advance of clamping means when the clamping means are released, for supporting a bottle in proper position to be gripped by the clamps?

(The question was read for the witness by the reporter.)

A. No, it doesn't.

46 Q. What was your answer? A. No, it doesn't.

Q. How is the bottle or how is a bottle supported in the Wachs type of device while it is being clamped by the locking jaws? A. By the neck of the bottle contacting a funnel-shaped device above the clamp.

Q. That funnel-shaped device is identified by what numeral? A. 19.

Q. Does that funnel-shaped device constitute a part of the bottle support which carries the bottle through the washer? A. Yes.

Q. It is not an independent means, in other words? A. No.

Q. Now, does the patent to Ruprich disclose such a means for supporting a bottle in gripping position while jaws are open? A. Yes.

Q. And what is that element? A. Well, I would think it was "B."

Q. Does it form a part of the bottle-gripping means, or is it independent of the bottle-gripping means? A. Part of the bottle-gripping means.

Q. Is it a part of one of the gripping jaws shown in the Ruprich patent, or an extension of the jaw? A. I would say it was an extension of that plate there, whether that is part of the jaw or not.

Q. It is the element identified by the letter "B,"
47 did you say? A. It looks like "B" to me.

Q. Now I direct your attention to claim 7 of your application involved in this action, which states among other things as a clause of the claim, "of an endless conveyor adapted to move bottle-engaging clamping means successively past said stations, a series of bottle-engaging clamping means carried by the conveyor, cam means at such stations for contacting said clamping means and mechanically effecting a release of said clamping means for the discharge of one bottle and the reception of another, and means disposed in the path of advance of said clamping means when mechanically released for supporting bottles in clamping position." Now does the patent to Ruprich disclose a cam means in the path of travel of the bottle-gripping jaws for releasing the jaws? A. No.

Q. It does not, you say? A. No, it does not.

Q. Does the patent to Wachs disclose such a cam means in the path of the moving jaws? A. I would say it did.

Q. Does the patent to Wachs disclose the last clause of your claim 7 which I read to you, which calls for means for supporting the bottles in clamping position? A. No, sir.

Q. Now I direct your attention to figure 2, figure 4, and figure 5 of your application. Will you identify for me by numeral the laterally spaced conveying elements.

A. "30" in 4.

Q. Will you identify for me by numeral the conveyor chain. A. "25." That is only part of the chain. That is not the chain itself.

Q. The chain contains a roller 19, is that correct? A. That is right.

Q. Does the number 30 identify the transversely extending frame elements of your bottle carriers? A. That is right.

Q. Does the number 31 identify the partition elements? A. 31 identifies the partition elements, yes.

Q. And do the numbers 33 and 34 identify respectively a movable and a fixed jaw as shown in figure 6? A. Yes.

Q. Do the numerals 39 identify the portions of the fixed and movable jaws which engage the bottle around the mouth or the bead thereof? A. Yes.

Q. Does the numeral 53 identify the cam means for opening the movable jaws? A. Yes.

Q. Does the numeral 62 identify the element for supporting the bottle in proper position for engagement of the jaws— A. Yes.

Q. —while the jaws are open? A. Yes.

Q. I direct your attention now to the patent to Anderson, No. 1,577,092; patent to Harold, No. 1,824,993; the patent to Lozowsky, No. 1,789,684, and the patent to Goldman, No. 1,012,843. Do any of these patents show a means for supporting bottles by engaging the bottle by the mouth thereof, by means of movable jaws which constitute the sole support for a bottle and in which the jaws can be opened by cam means positioned in the path of travel of such jaws? A. No, I don't see any showing of any means of opening or closing—any mechanism for opening or closing your clamp or clamping the bottle on the mouth of it.

Q. Can you tell me, Mr. Fogg, from your experience in the promotion of the sale of the Baltimore soaker-type washer approximately how many of those machines have been sold? A. Let's see—1937 was 80 of them; '38 was 106 of them; '39 was 118 of them; and '40 was about 80 of them. I haven't kept any records since then. I haven't '41 and '42.

Q. What is the approximate sales price of such a machine? A. It will average about \$1,050 a machine.

Q. Do you have a general idea of the amounts of money spent by the Cherry-Burrell Corporation in the development of this machine, if any? A. Between \$15,000 and \$20,000.

Q. Has the machine, as commercialized, met with approval of the users, to the best of your knowledge? A. Quite enthusiastically. It enables the smaller producer to be as well equipped as the larger man. In other words, it gave him the same—gave him an opportunity to have an automatic hook-up.

Q. What is the advantage of providing a bottle-washer with an arrangement for supporting bottles of the type which is shown in your application; that is, the hinged-type of gripping jaws which grip the bottle only around the mouth of the bottle, and the necessary cam means 50 for opening the pockets and the necessary supporting means to support the bottle while it is being gripped by the clamps? What is the advantage? A. Made a more efficient and more economical machine. By using that type of clamping device you are able to keep away from enclosing bottles in steel or in a metal as the conventional type of pocket, the conventional type of washer has, and usually in using a bottle-washer it is connected automatically to the bottle-filling machine by means of a bottle conveyor, and it requires—you are able to deliver cleaner and colder bottles to your filling operation by not enclosing the bottle when you wash it, by steel, or a conventional type of pocket. It left the bottle free to be washed on the outside, whereas under some conditions with the conventional type of pocket it is quite difficult during different seasons of the year to wash the outsides of bottles because you can't get at them directly.

Q. Now in the type of pocket shown in figure 6 of the patent to Wynne or in the type shown in figures 3 and 2, would it be your opinion that the bottle is clear and free of contact with the holder—that is, the body of the bottle is free and clear of the contact with the holder? A. Couldn't be, because it couldn't go through the machine unless it contacts the pocket, in this machine.

Q. In other words, in the Wynne machine the bottle is contacted at various points along the body of the bottle? A. That is right.

Q. Does such contact prevent the free exposure of the bottle so as to interfere to some extent with the ready washing of the bottle? A. Yes, it does at the bottom of it.

51 Q. Do you see any reason in the disclosure of the Wynne patent for providing the pocket of figure 6 with spring fingers in addition to the reasons set forth in the specification of the Wynne patent which states that the bottle pocket is so made as to permit the pushing of the bottle through the pocket into the unloading device? A. That is why the pockets were made that way.

Q. In other words the spring fingers were not provided for support of the bottle but merely to permit the bottle to be pushed out of the pocket? A. That's right.

Q. In a normal machine is the bottle pushed out of the pocket or dumped out of the pocket? A. The bottle comes out the same way it goes in the large opening of the pocket.

Q. In other words, it is not pushed through the pocket? A. It is not pushed through.

Mr. Deletzke: That is all.

Cross-Examination by Mr. Cochran.

Q. Mr. Fogg, what do you suppose that the purpose of the spring finger 67 and 68 is in figure 6 of the Wynne patent? A. That was merely to make a flexible means whereby they could force a bottle through, straight through the pocket of the machine into a turn-table that would turn and drop it on to an elevator—that would eventually drop it on to a conveyor to convey it to the bottle-filling machine.

Q. You say they are made so that they could be
52 pushed out of the way? A. So that they can be discharged to another machine where they will be filled.

Q. What function do they perform in the washing machine? A. These fingers?

Q. Yes. A. Merely to hold the bottle from going clear through the pocket.

Q. Well, they do hold it? A. They hold it, yes.

Q. To that extent? A. By contacting the common diameter of a bottle, the diameter at this point where these fingers—where they are the narrowest, there—contact the common diameter on a bottle.

Q. And in accordance with the sketch which you made? A. That is right.

Q. May I see the sketch? The spring fingers contact the bottle at a point which you call the point of common diameter? A. That is right.

Q. That point is of smaller diameter than the diameter of the bead of the bottle is it not? A. That's correct.

Q. So that if the bottle were to start to descend out of it as shown in the sketch the bead would have to expand the spring fingers in order to go through, would it not?

A. Well, may I correct myself? All bodies of bottles are larger than the mouth of the bottle on that, and directly under the bead of the bottle is the narrowest part of the bottle, and it extends out to a point where all bottles come to a common diameter. Now the shape of the Wynne
53 pocket is such that the diameter of these "fingers" they call them here is greater than the bead of a bottle or the mouth or the lip of a bottle or the finish of a bottle, but the diameter becomes smaller immediately after that and then graduates out until it becomes greater than the mouth of the bottle.

Q. And is your sketch inaccurate in that respect? A. No, sir. Yes, it is inaccurate as far as accuracy is concerned. What I tried to show by that sketch was that the mouth of that bottle is larger than the bead on the bottle, on a milk bottle, therefore the bead goes right—the bottle goes right on through the pocket, through the "springs" as you call them, to a point where it meets the diameter of the milk bottle that is common on all three sizes.

Q. But in your view the bead on the mouth of the bottle, the diameter of that bead is smaller than the normal diameter of the space between the spring arms? In other words, will the bottle bead pass through the spring or arms? A. Yes, sir.

Q. Without touching them? A. Yes, sir, without clamping or developing any friction there at all.

Q. Do you find anything in the patent that supports that view? A. I do on the drawings here, sir. If you will refer to the drawings here you will find that the mouth of the bottle was held by the clamp there and it would not be necessary to have a false bottom in this washer, or strips to hold the bottles in place, as he calls it here.

Q. Does he not say that false bottom or strip 73 is 54 for the purpose of taking care of those smaller bottles which would drop out? A. Well, those smaller bottles would not drop out if they were clamped by the fingers of this pocket, because the finish of bottles is 56 mm. regardless of whether it is a quart, pint, or a half pint, so if it would hold a quart, the larger bottle, it would necessarily hold the pint bottle and the half-pint bottle, therefore they would not require any means at the bottom of the pocket to hold those bottles.

Q. You mean then that that strip is required for all bottles and not for what the patentee says, just for a few of the smaller ones? A. That is correct, sir; that is correct.

Q. Then do you agree to disagree with the statement of the patentee on page 4? Well, it is the last paragraph of page 4, in the left-hand column, in which he says that "In any event the bottle holders of the present invention allow insertion or removal of a bottle from either end of the carrier and include spring fingers for normally retaining bottles within such carriers as the same are moved to the washing machine." You disagree with his statement that the spring fingers normally retain the bottles in the carriers? A. They retain the bottles in the carriers, if they can be called "fingers."

Q. You do not dispute that the members 66, 67, and 68 are spring fingers, do you? A. That is a 1-piece stamping.

Q. Yes. A. And they are made fingers by making
 55 a stamping out of it. Now those fingers do not carry
 the bottle through the machine. They prevent the
 bottle from dropping out of that carrier or pocket when
 it becomes in the inverted position. When it becomes in
 an upright position it drops the distance between the bot-
 tom of the pocket and the bottom of the carrier, is that
 clear? Then when it goes around and the bottle becomes
 in the inverted position that bottle moves back into that
 pocket whatever distance it might be for the body of that
 bottle or the breast of that bottle to contact that pocket or
 as he terms it "spring fingers" there, but there is no
 spring tension holding the bottle in that carrier at all
 and there isn't any tension on that bottle at all until the
 plunger that discharges the bottle forces that bottle out
 the nose of the carrier. As he says here, you can take
 the bottle out either way. He has no means whatever.
 If you could take it out either way and these fingers con-
 tacted or had a clamp, or a clamp on the bottle, then you
 couldn't pull that bottle out the way it went in, but he
 states here it can be taken out either way. Now those
 "fingers" as it is called here are there to hold the bottle
 from going clear through the pocket until the kick-out
 mechanism or the plunger strikes the bottom of that pocket
 and forces it out through the front of the machine to a turn-
 table. That is the only time there is any tension on the
 bottle in that machine.

Q. I see your explanation. Now will you refer to the
 Ruprich patent, the German patent. I believe you testified,
 if I understood you, that you did not see anything in that
 patent there to move the jaw members in a gripping posi-
 tion. A. If I did I misspoke myself.

56 Q. You did. A. I see where you could slide this
 crosswise here; these four members work together and
 would form a clamp there or a yoke there to hold a bottle.

Q. And you also see a cam on either side of the figure 2
 with which the rollers "D" will contact, to cause a move-
 ment of the gripping member "i", is that right? A. That
 is right.

Q. That is the operation? A. That is what I meant
 to say.

Q. Yes. A. There are no means shown here of conveying it, of any conveyance at all.

Q. Well, except the little wheels "D" you mean? A. The little wheels "D" wouldn't—or, act on the clamping member here, but there are no means shown here as I can see it of conveying these bottles.

Q. Have you the specification of the patent, there, in English? A. I am not able to read it in its present form, sir.

Q. We will pass that over. That speaks for itself I think. A. May I express, here, that this patent, here, shows to me that this clamping means does not hold the bottle rigidly.

Q. In the German patent? A. Yes; and they are not independent; the four work together, as I read this.

Q. Yes. Is there something in your claims about the clamping means being independent? A. There are—isn't there, Norman, in that claim?

57 Q. Will you point out that, please?

Mr. Deletzke: Rather than have the witness testify, I believe the record is the best evidence, such as the copy of claim 1 included in the bill of complaint, in which the last line of the claim or the last clause of the claim said: "One of the jaws associated with each of the openings being movable and each of the movable jaws being movable independently of the remaining movable jaws."

By Mr. Cochran:

Q. Will you refer to the Wachs patent, Mr. Fogg. As shown in figures 4 and 5 of that patent, isn't it true that the gripping jaws 25 grip the bottle somewhere near the mouth of it? A. Well, to me that would not be called the "mouth" of them. Probably it might be. It is clear below the finish of the bottle there.

Q. In other words, below the bead? A. Quite a bit, yes. It is below the finish. The bead is on the top and the finish is below the bead. I will have to give you my interpretation of that; and the clamp is below the finish. In other words, the clamp is on the neck of the bottle here as it would be termed I think, as we talk of it in the bottle industry.

Q. Well, that is at a point much, much closer to the

mouth of the bottle than it is to the breast of the bottle?
A. Quite so, quite so.

Q. Yet you would say, would you, that these jaws 25 do not fit the bottle adjacent to the mouth? A. I would say they were not adjacent to the mouth.

58 Q. You would say they were not? A. My interpretation would be they are not adjacent to the mouth. They are below the finish of the bottle. The mouth of that bottle is below that little bead that you see there, which is the crown; then this heavy part here is the finish of the bottle, then which contacts it below the finish, here, because there is movement of that bottle in that mechanical device there or that casting there which the bottle goes into to stop it from—to hold it in position.

Q. Will you look at the Goldman patent, please. You have in that patent a series of rigid frames connected at their respective ends with conveyor elements, do you not?

A. Yes. Don't show the conveyor on my drawing here, but it looks as though it might be attached to a conveyor.

Q. And each of those frames has side walls? A. Yes, sir.

Q. And transversely extending partitions? A. Yes, sir.

Q. Forming compartments into which bottles are placed? A. Yes, sir.

Q. But the difference is that that patent lacks any means for gripping the bottle, is that right? A. Yes, sir; that moves the pocket and closes the opening in the pocket so that the bottle cannot fall out, but the bottle is loosely in the pocket, there is no gripping means whatever.

Q. There is no gripping means? A. In other words, just like closing a door on an opening.

Q. Now will you look again at the Lozowsky patent and tell me whether that patent discloses resilient bottle-
59 gripping means forming the sole support of the bottles, in that device, and in which the gripping means engages the bottle adjacent the mouth, there? A. I think it does. There is no conveying means, there, at all—

Q. No. A. —or anything else. It is just forced. It is not a movable member, but I mean mechanically movable. It is moved by pressure, by forcing the bottle in there.

Q. But the spring arms form the sole support of the bottle in the use of the device; that is true, isn't it? A. That would look that way, here.

Mr. Cochran: That is all.

Redirect Examination by Mr. Deletzke.

Q. In the Lozowsky patent, at least patent 1,789,684, how would you put the bottle into the holder shown in figure 1? A. With a lid on, it would not go in.

Q. Well, with the lid off? A. Just force it right down.

Q. You would have to force the bottle into the holder? A. That's right, you would have to force it.

Q. When you removed it, how would you remove it?

A. You would remove it by pressure, pulling it out.

Q. You would have to pull it out? A. You would have to pull it out.

Q. Is there any means shown for opening or closing the jaws? A. I can't see any here at all.

Q. Is there any means shown for supporting the bottle in bottle-gripping position? A. None whatever.

Q. In your direct testimony I believe you stated that in the Wynne patent the fingers of the bottle pocket engage the bottle on the neck of the bottle at a point where the diameter was larger than the largest diameter of the bead, is that correct? A. That is right.

Q. In your cross-examination I believe you stated that the bottle was gripped at a point where the diameter was smaller than the point of the bead. Do you want to— A. The diameter is greater than the point of the bead.

Q. In other words, in the Wynne patent, the fingers of the bottle pocket grip the bottle on the neck of the bottle at a point where the diameter of the neck is substantially larger than the outer diameter of the bead? A. That's right.

Q. Is it by virtue of that fact that the bottle could drop out of the pocket while passing through the bottom of the bottle-washer of the retaining strip 73 had not been provided? A. Yes.

Q. In other words, any size of bottle would drop out

of that pocket if that strip were not provided? A. That is right.

Q. And in the figure 4 the bottles shown in the Wynne patent are supported solely on the strip, is that correct?

A. As they travel through the soaking solution, that is right.

Q. They are merely pushed along or slid along on that strip by engagement of the sides of the pocket with the side of the bottle? A. That is right.

Q. Is there any time during the operation of a bottle-washer according to the Wynne patent in which the pockets and particularly the fingers of the bottle pockets engage the bottle in any different manner than the bottle is normally engaged in a normal pocket, excepting of course that time while it was being forced through the end of the pocket at the discharge position?

(The question was read for the witness by the reporter.)

A. Well, if I understand the question correctly, in the conventional bottle-washers the nose or the mouth of the bottle contacts the nose of a bottle pocket. That prevents the bottle from going through the pocket. In the Wynne patent the breast of the bottle contacts the side of those fingers and prevents the bottle from going through that pocket. In both cases the bottle is free to have an up-and-down motion and a side motion and contacts other parts of the pocket.

Q. In the Wynne disclosure would the bottles be supported in exactly the same manner if the fingers are rigid as they are if the fingers are made of springs? A. Yes, sir; that's right; they would.

Q. In other words, the spring feature of the Wynne patent only comes into play during the discharge operation when the bottle is forced out through the small end of the pocket? A. That's right, that's right.

Q. At any other time there is no spring tension on the bottle whatever? A. That's right.

Q. With respect to the Ruprich patent, on direct examination you stated you did not see how the pockets shown in the Ruprich patent would be opened. On cross-examination you stated you did. Will you tell me, looking particularly at figure 2, what would happen with respect to

the two jaws when the rollers D move over the cam, and what would happen with respect to the carrying plate? Would there be any relative motion between the two jaws, or would the whole mechanism, since both cams are the same, just move over bodily and nothing happen at all? Which of the two would take place? A. Well, the way I read this patent here, this paper, this blueprint, here, the whole thing would move over.

Q. In other words there would not be any relative motion and the jaws would not open, is that correct? A. As far as I can see.

Q. Yes. A. That is as far as I can see on that drawing.

Q. In other words, to make the jaws open something else would have to be provided in this Ruprich disclosure of the German patent to actuate them? A. Something else, to me, would have to be on that drawing to make them work.

Q. You do not see anything in there now that would enable these jaws to open, unless something else was provided? A. No, I do not.

Q. In other words, in your opinion, as the rollers D roll over these two complementary cams the rollers and the movable gripping jaws would move over from right to left and the supporting plate would also move over from right to left? A. The whole thing would off-set with that off-set.

Q. And there would be absolutely no relative motion between the relative parts? A. That's the way I read it.

Q. And if there is no relative motion, the pockets would not open, is that right? A. Well, according to that drawing it wouldn't open. I can't read that drawing too well, to tell the truth.

Q. Do you mean, by "reading it too well," you are inventing something, or adding something to it? A. No, sir; I am telling what I think, there.

Q. You do not see anything there now that would—
A. (Interposing.) I don't see anything there that I can understand the movement of that.

• • • • •

64 HAROLD S. FIELDER, produced, sworn, and examined as a witness on behalf of the plaintiff, testified as follows:

By the Clerk:

Q. State your full name, please, sir. A. Harold S. Fielder.

* * * * *

Direct Examination by Mr. Deletzke.

Q. Mr. Fielder, will you give the name of your present employer? A. Cherry-Burrell Corporation.

Q. How long have you been employed by Cherry-Burrell Corporation? A. Since 1928.

* * * * *

Q. In what capacity are you employed by the Cherry-Burrell Corporation? A. Manager of development engineering.

65 Q. Incidentally to your duties as manager of development engineering have you ever heard of the development of the so-called Baltimore soaker-type washer? A. Yes, sir.

Q. Is it your understanding that that is the same development involved in this action? A. Yes, sir.

Q. Have you ever examined the application for patent which was filed by Carl L. Trier and Jesse W. Fogg, a patent on Baltimore soaker-type washer? A. Yes, sir.

Q. And have you examined the references which were cited in the examiner's statement and submitted by the examiner incidentally to an appeal from the final rejection? A. Yes, sir.

Q. You are familiar with those references? A. Yes, sir.

Q. What do you understand is the subject matter of the action now before the court in respect to the aspect of the invention shown in said application? A. The invention covers an improvement in bottle washers comprized primarily of lateral conveyors or chains separated on each side of the washer carrying holders or means for carrying bottles through the machine. The bottles themselves are

gripped by bottle-gripping jaws that hold the bottles rigidly and clear of the framework and the partitions in the bottle carriers.

Q. Is there any means provided for opening the gripping jaws to which you refer, with means for supporting the bottles while in gripping position? A. Yes, there are 66 cams that are located in the path of the bottle-gripping jaws, that open the jaws and that hold them open and that allow them to close.

* * * * *

Q. I direct your attention now to the Wynne patent, 1,934,250. Will you describe to me the manner in which the disclosure of that patent differs from the disclosure of the instant application, and if possible point out the elements of the specification which support your opinions? A. The first major difference that I see is 67 that the Wynne patent does not show gripping jaws that hold the bottle. This is brought out in the object of the patent. On line 10, the first page, it states: "The present machines are not completely satisfactory in that it is impossible to wash bottles of different sizes indiscriminately inserted in the machines, and furthermore the present machines grip the bottles by the crowns for movement through the machines." In other words, it was not the object of this invention of Wynne's to provide a gripping means for holding the bottle at the crown. He states at line 26: "The machine of the present invention on the other hand will without adjustment wash bottles of different sizes and also convey the bottles through the machine by engagement of the body of the bottle leaving the crowns free."

Q. Is there anything in the drawing of the Wynne patent which clearly shows that the washer designed by Wynne incorporated the last mentioned objective, that is, in other words, a bottle-washer in which the pockets do not grip the bottle but in which the bottle is supported by other means as it passes through the washer? Is that shown in the Wynne figure? A. That is shown in figure 4 and particularly figure 6. Figure 6 shows a cylindrical container for the bottle and is described on page 2, line 138. "At intervals in the length thereof"—may I go back just a little further? At line 134:

"The conveyor as a matter of fact comprizes two chains 63 and 64 which chains are arranged along each side of the casing and are cross connected at intervals in the length thereof by members 65 which in turn are provided with a plurality of bottle carriers or spring cups. 68 There are four such cups illustrated as being carried by one of said cross members."

Now these carriers have springs 67 and 68 shown in figure 6 that contain the bottle, they hold the bottle, they do not grip the bottle. Those springs are provided so that the bottle may be ejected or pushed through them. They are not for the purpose of gripping the bottle. The time when they support the bottle is when they are passing as shown in figure 4 at the top of the figure, when they are passing through the upper portion of the machine carrying the bottle in an inverted position. At that time the bottle rests on those springs where its breast or a portion of the narrower portion of the breast rests against spring 67 at about the place where the part number is shown.

Q. Is there anything in the specification which discloses that the fingers of the bottle pocket shown in the patent of Wynne are opened up at any time to permit the insertion of a bottle? A. The bottle is inserted, in figure 4, by shelf number 32 which raises, carries, and pushes the bottle into the pocket in its receiving position.

Q. Is there any indication in the patent that while the bottle is being pushed into the pocket the spring fingers are dilated or moved in any way whatsoever? A. Not that I have been able to find. The only place that the description or the specification tells about the springs opening is when the piston 153 on figure 4 pushes the bottle through the pocket expanding the springs and delivering the bottle into the rotating carriage 152.

69 Q. You are employed by the Cherry-Burrell Corporation in the capacity of an engineer or in charge of engineering development, is that correct? A. Yes, sir.

Q. In your opinion as an engineer would the bottles drop out of the pockets of the patent to Wynne of their own weight if the skids or slides 73 positioned below the rows of bottle pockets in the bottom of the bottle-washer were not provided? A. The bottle would drop out without the skids 73.

Q. If the bottle were gripped in any way whatsoever would it drop out? If it were gripped by the spring fingers would it be likely to drop out? A. No, if the spring fingers were designed to grip the bottle and hold it that way then they would not drop out and there would then be no need for skid 73.

Q. In your opinion then there is nothing of the nature of a bottle-gripping and -supporting jaw disclosed in the Wynne patent, is that correct, such as is called for? A. There is nothing in the nature of a bottle-gripping jaw. So far as support is concerned—yes.

Q. There are supporting jaws? A. They support the bottle when in the inverted position as they pass over the upper portion of the machine; but that is not "gripping."

Q. Would they support the bottle just as well if they were not made of spring metal? A. Yes, yes; then they would become the conventional bottle pocket such as is used in many other soaked bottle-washers.

Q. If the conventional pocket were provided you 70 could not force the bottle out through the small end of the pocket to the discharge position as shown in the Wynne disclosure, is that correct? A. That is correct.

Q. I now direct your attention to the German patent to Ruprich, 524,003. Do you see in the disclosure of that patent bottle-gripping jaws? A. Yes, sir; there are bottle-gripping jaws shown, figure 2, part marked "i". There are four such jaws all attached to a common bar and engage the bottle with fixed parts "B", there being four of such parts complementary to parts "i".

Q. Does the Ruprich disclosure include means for moving the bottle-support mechanism shown in that patent? A. The drawings are very incomplete. There is shown on either side of figure 2 what appears to be a camway. Each of those camways has a raised portion which would cause the rollers D to change their path of direction, but there is nothing shown that would cause a relative motion between the clamping jaws (i) and the fixed jaws "B". In other words, as shown, the whole mechanism would move with the rollers and what appear to be the cams that cause their change in direction. There is nothing in other words

that produces a relative motion that would clamp the bottle into the jaw.

Q. If a conveyor chain were to be attached to the device shown in the figures of the Ruprich patent and that device moved along that camway by tension on the chain, would that actuate the bottle pockets? A. No, not necessarily. The chain, being flexible, would flex with the action of the cam jaws on rollers D and it would not
71 necessarily follow that any movement or any relative motion of the jaws themselves would take place.

Q. Would it in your opinion be necessary to add something to the disclosure of the Ruprich patent in addition to a conveyor chain, which would move that device, before that device would operate, before any jaws would move? A. Yes, that would have to be done.

Q. Do you see anything of such a nature in that disclosure? A. No, there is nothing shown there.

Q. Are the jaws of the Ruprich patent individually movable? A. No. There are four jaws (i) shown and they are all attached to a common bar so that if a means is provided for making them work they would all attempt to grip a bottle at once, and if one bottle happened to be larger in diameter than another then the others would not be gripped.

Q. Assuming now that a conveyor chain were attached to the bottle-supporting element shown in the patent to Ruprich and the conveyor chain moved, would it in your opinion then be an operative device satisfactory for opening and closing so that bottles could be inserted and removed? A. No, simply the addition of a chain would not render it a satisfactory operating device.

Q. Could it operate satisfactorily in so far as you could see by merely the addition of a chain? A. No, it could not make the jaws move open or closed to grip the bottles.

Q. I now direct your attention to the Wachs patent, 1,213,308. Will you explain to me the manner in which the apparatus shown in that patent would support a
72 bottle and grip the bottle, if it grips at all. A. The method of holding the bottle shows two devices. The first is shown in figure 4, most readily, part 19, which is a conical-shaped cup in which the bottle is supported.

The bottom of the cone contacts the neck of the bottle and prevents it from going through. Below 19 are two jaws, the part numbers 25, in figure 2. They lock the bottle at a point between the diameter at which they are supported in the cone, 19, and the bead of the bottle near its mouth.

Q. Do these jaws constitute the only means of support for the bottle in the mechanism provided by Wachs? A. There are two means of supporting the bottle. As I said before, the jaws are not the only means. The jaws support the bottle as they are passing through the bottom of the machine in the soaking position. The bottle is right side up. That is shown in figure 5. The cone 19 supports the bottle when it is inserted and also supports the bottle in the top position of the machine when the bottle is passing through in an inverted position. Therefore there are two means of supporting the bottle in this invention, neither one of which alone would carry the bottle through the machine.

Q. Is there a means provided for opening the locking jaws of the Wachs patent? A. Yes, there is a cam with surfaces 33 that operate on lugs 29 shown in figures 2 and 3.

Q. Is the bottle rigidly held in locked position when it is supported in the device such as is shown in the Wachs patent or is the bottle slightly moved? A. The bottle is free to move. It slides downwards when it is passing through the soaking position and hangs by the under side of the bead as shown in figure 5. It slides in the opposite direction and is supported by cone 19 when the bottle is in the topmost portion of the bottle-washer.

Q. Is there anything shown in the patent to Wachs or the Ruprich patent or the Wynne patent which could possibly support a bottle in jaw-locking position similar to the provision 62 of the Trier-Fogg application?

(The question was read for the witness by the reporter.)

A. Support 62 in the Trier-Fogg application is a spring-like bar in the loading position locked in the path of travel of the jaws which receives the bottle when it is inserted in the machine. There is no such device in the Wynne patent, there is no such device in the Wachs patent, nor in the Ruprich patent.

Q. In the Wachs patent is the bottle supported by any-

thing or at any time prior to the gripping thereof by the jaws? A. Yes, the bottles are supported by cone 19.

Q. Cone 19 forms part of the pocket, is that correct?

A. It is not hardly a pocket, it is more like a cup to support the bottle.

Q. But the cone 19 constitutes part of the means by which the bottle is moved through the bottle-washer? A. That is correct.

Q. I now direct your attention to the patent to Goldman and the patent to Harold, numbered respectively 1,012,843 and 1,824,993. Is there anything in either one of these patents which has any similarity to the instant invention, over and above the framework, which constitutes fixed body-supporting pockets? A. The framework and the conveyor chain are the only two similar things.

Q. Do either one of these patents disclose spring bias jaws for gripping the bottle and constituting a sole support of the bottle? A. No, sir. In the Harold patent the support of the bottle is described very well in line 75, page 1, "as shown in figure 1, the bottom of each compartment being contracted to form a seat 7 for the bottle." In the Goldman patent there is no gripping device, either.

Q. The pocket shown in the Herold patent is more or less of the conventional type of pocket, is that correct?

A. Except that there is a rather complicated gate mechanism for closing the opened end through which the bottle is inserted, or—

Q. In the Herold patent? A. "As you were." Excuse me. I was looking at the wrong one. What is that question again?

(The pending question was read for the witness by the reporter.)

A. Yes, that is correct.

Q. I now direct your attention to the U. S. patent No. 1,789,684. Does that patent show spring means for gripping a bottle? A. Yes.

Q. In your opinion as an engineer would that be a satisfactory type of gripping means to install in a bottle-washer where you intended to wash more than we will say one bottle at a time? A. No, I do not believe that it would be satisfactory, because the only way that a bottle can

be inserted or removed would be by hand, requiring I would judge considerable pressure to push it in or to pull it out. There is no automatic means for operating these spring clips. These spring clips would remind you of a fuse clip in an electric power panel.

Q. Have you observed in any one of the patents to which I have directed your attention a construction in which you have provided bottle pockets which grip the bottle adjacent the mouth of the bottle, constitute the only support for the bottle, and these being associated with cam means for opening the pockets at certain periodic intervals during the period of their travel through a bottle-washer, and also cooperating with means for supporting the bottle while the jaws are in opened position above the cam means?

A. No, sir; they are not shown in these patents.

Q. Is it your understanding that those are the features which constitute aspects of the applicant's invention as set forth in the claims recited in the bill of complaint which was filed in this court incidental to a request for authorization for patent, containing claims Nos. 1, 4, 6, 7, 52, and 53 of the Trier-Fogg application? A. Yes, sir.

Q. You have read all of those claims? A. Yes, sir.

Q. Now I direct your attention to a claim, No. 57, of the involved application, and also direct your attention to a U. S. Patent No. 2,210,529.

76 Mr. Cochran: May it please Your Honor, if Your Honor is going to rule against consideration of extra claims it would of course be out of order to consider that claim in reference to this patent.

The Court: I will allow the testimony to go in.

Mr. Cochran: I just thought time might be saved by it.

The Court: Well.

By Mr. Deletzke:

Q. (Continuing.) Apply the claim 57 to the elements shown in the Dostal patent 2,210,529. A. With your permission I will read the claim in part.

Q. Read each element and then identify the element of the Dostal patent to which it applies. A. "In a bottle-washing machine a casing shown figure 1, No. 13, an endless conveyor for substantially longitudinal travel in said casing comprising parts 18, 19, and rollers 20, a plurality

of pivotally connected transversely extending flights having bottle neck receiving openings therein," which is 18 and 16, "movable bottle-neck grippers carried by said flights for releasing gripping bottle necks when in one position and for releasing said bottle necks when in another position," being the same parts, 16 and 18, "means for automatically moving said movable grippers carried by said flights at certain predetermined times," being cams 36 and 32, that have extending portions 34 and 31 which come in contact with movable pieces 18, "and means rigidly secured to said casing, and independent of the conveyor, and disposed in the path of the travel of the bottles, for elevating the bottles in the conveyor to a bottle-locking position," which 77 would be parts 40 and 41 shown in figure 2 and in figure 7.

Q. Is that the end of the claim? A. Yes, sir.

Q. Now will you rapidly read to yourself claim 1 of the Dostal patent and give me your opinion as an engineer whether or not that claim is directed to the same combination of elements covered by the claim which you just read, which was 57 of the involved application. A. Yes, sir.

Mr. Deletzke: I now offer in evidence as plaintiff's exhibit 5 the Dostal patent 2,210,529.

(Dostal patent 2,210,529 was received in evidence as PLAINTIFF'S EXHIBIT 5.)

By Mr. Deletzke:

Q. Incidentally to your activities as an engineer in charge of development for Cherry-Burrell Corporation, are you familiar with the design and manner of operation of other types of bottle-washing machines in addition to the type in respect to which you have just been testifying and as disclosed in the application involved in this action? A. Yes, sir.

Q. Are you acquainted with bottle-washers which are not manufactured by the Cherry-Burrell Corporation but which are available on the open market? A. Yes, sir.

Q. Do you know of any bottle-washer now available on the market, or have you ever seen any printed publication in which bottle-gripping jaws for securely gripping bottles

in a bottle washer and constituting the sole support for
 78 the jaws are combined with cam means for opening the
 jaws and with means for supporting the bottle in jaw
 locking position while the jaws are open, other than the
 Dostal patent with respect to which you have just testified?

A. The Dostal patent covers a machine which is made by
 the Sturdy-Bilt Company, and our Baltimore Soaker
 washer, are the two that I am familiar with, that have
 bottle-gripping means.

Q. Those are the only two with which you are familiar?

A. Yes, sir.

Mr. Deletzke: That is all.

Cross-Examination by Mr. Cochran.

Q. Mr. Fielder, with reference to the Wynne patent,
 and the bottle holder 66 shown in figure 6 of that patent, I
 believe you stated that the spring fingers or spring arms
 67 and 68 do not grip the bottles but merely form the re-
 silient support for them when they are in an inverted posi-
 tion. A. Yes, I believe I said that.

Q. And that if the springs were to do any gripping they
 would have to be redesigned? A. Did I say that?

Q. Well, let me ask you this. Whether you said it or
 not, my question would be this: If the springs were made
 stiffer than they may be here, could they not grip the
 bottle? A. I do not think so.

Q. What would be your reason for saying that, that they
 could not be made stiff enough to grip and hold the bottles?

A. I would say that if they are made stiff they would then
 become a conventional pocket that holds the bottle just
 79 as a container would hold it, by resting in the pocket.

Q. You mean that the curve to the lower ends of the
 spring arms shown in figure 6 could not engage under the
 bead at the end of the bottle and hold the bottle?

The Court: You mean the bead at the top of the bottle?

Mr. Cochran: The bead at the mouth of the bottle, yes.

A. If you make the springs stiff enough to do that, you
 then cannot push the things through, cannot push the
 bottles through.

By Mr. Cochran:

Q. Now will you refer to the claim 57 which you were discussing a minute ago and tell me if you think it applies to the disclosure made in the application here in suit? A. Yes, I do.

Q. In other words, does the application here in suit disclose the subject matter of that claim? A. Yes, I think so.

Q. Will you point out to me where in the application in suit there is disclosed means for elevating the bottles in the conveyor to a bottle-locking position are recited in the last lines of that claim? A. If you will refer to figure 2 of this application, part number 62, which is also shown in another view in figure 5, that part is a springlike piece approximately under the center line of the path of travel of the gripping jaws, approximately under the center of the mouth of the bottle when it is inserted. That spring is there so that its resilience will yield when the bottle is put in. In practice, operators are not gentle in the operation of these machines. They simply—well, virtually—
80 throw a bottle into place. They are working fast, they are working hard. When that bottle goes in there that resilient means is needed to keep the mouth of the bottle, the bead of the bottle, from chipping, and there is a yield, the spring comes back, the bottle is elevated to the gripping height.

Q. And that small reaction of the spring is what you refer to as being the means for elevating the bottles in the conveyor to a bottle-locking position? A. Yes.

* * * * *

DEFENDANT'S EVIDENCE.

Mr. Cochran: May I introduce at this time, Your Honor, an exhibit for the Patent Office which consists of copies of the patents?

The Court: This will be defendant's exhibit No. 1.

Mr. Cochran: Defendant's exhibit No. 1 consists of copies of the patents which we have been discussing here today, and a copy of the drawings, plaintiffs application, copy of the statement of the examiner, and a copy of the decision of the Board of Appeals.

The Court: If there is no objection, let it be received in evidence.

81 Mr. Deletzke: No objection.

(The document referred to, of patents, drawings, statement of examiner, and decision of Board of Appeals, was received in evidence as DEFENDANT'S EXHIBIT 1.)

* * * * *

336 AMENDMENT, MAR. 6, 1941.

Hon. Commissioner of Patents,
Washington, D. C.

Sir:

Responsive to the decision of the Board of Appeals regarding the appeal from the final decision of the Primary Examiner in the above application, please enter the following amendment:

In the Claims:

Claim 1, line 8, after "means," insert—each of said gripping and supporting jaws having bottle gripping faces removed from the supporting frame and being complementary to the outer periphery of a bottle about the mouth thereof,—.

Claim 4, line 9, change "adjacent" to—about—; same line, after "thereof," insert—and—.

Claim 6, line 5, in the amendatory matter added thereto by the amendment dated April 17, 1940, after "and" insert—independent—; after "disposed" insert—in ad-

vance of the location of the mechanical releasing
337 means—. (Note: As so altered, the amendment to

line 5 of Claim 6 should now read as follows: "and independent means disposed in advance of the location of the mechanical releasing means in the path of advance of said clamping means when mechanically released for supporting bottles in proper position to be clamped by said clamping means."

Claim 7, line 7, in the amendatory matter added thereto by the amendment dated April 17, 1940, after "and" insert—independent—; after "released" insert—and positioned

at the bottle loading station—. (Note: As so altered, the amendment to line 7 of Claim 7 should now read as follows: "and independent means disposed in the path of advance of said clamping means when mechanically released and positioned at the bottle loading station for supporting bottles in clamping position.")

Claim 14, line 7, after "positions," insert—and—.

Claim 52, line 7, cancel "and" (second occurrence).
338 Claim 52, line 11, change the period (.) to a comma

(,) and insert—a bottle loading and a bottle unloading station, cam means for opening said complementary jaws at said stations, and independent means in the path of travel of the necks of said bottles at said loading station for supporting a bottle in position for jaw engagement until the jaws have become disengaged from said cam means.—

Cancel Claim 53 without prejudice.

Claim 56, line 6, after "therewith" insert—and—.

Add the Following Claim:

—57. In a bottle washing machine, a casing, an endless conveyor for substantial longitudinal travel in said casing, a plurality of pivotally connected, transversely extending flights having bottle neck receiving openings therein, movable bottle neck grippers carried by said flights for releasably gripping bottle necks when in one position and for releasing said bottle necks when in another position, means for automatically moving said movable grippers carried by said flights at certain predetermined times, and means rigidly secured to said casing and independent of the conveyor and disposed in the path of travel of the bottles for elevating the bottles in the conveyor to a bottle locking position.—

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REMARKS.

Applicants submit with this amendment a letter to the Official Draftsman requesting the deletion from Figure 1 of the guide line 13—13 and the identifying numerals 13.

In the instant application Claims 10, 12, 13, 14, 16, 17, 18, 39, 55 and 56 were indicated as being allowable prior to appeal to the Board of Appeals from the final decision of the Primary Examiner. The decision of the Board of

Appeals held additional claims, 5, 8, 15, 19 and 54, to be allowable. In the same decision the Board of Appeals affirmed the Examiner's final rejection of Claims 1, 4, 6, 7, 52 and 53. Claim 53 has been cancelled by this amendment without prejudice.

In affirming the rejection of Claim 1, the Board stated, when referring to Claim 1:

"The claim states no structural arrangement which would prevent the bottles touching the frame and so far as structure is concerned, claim 1 does not define invention over *Wynne et al.*"

Claim 1 has, accordingly, been amended by inserting therein the limiting recitation of a structural arrangement which would prevent the bottles from touching the frames of the bottle jaw supporting structure. The absence of such a limitation apparently was the reason for the decision of the Board of Appeals in affirming the rejection of the claim as clearly set forth in the above quoted statement from the decision of the Board of Appeals which was taken from paragraph 1, page 2, thereof. Therefore, Claim 1, as now amended, includes the recitation of a structural arrangement which obviously supplies the missing element apparently objected to by the Board of Appeals. Accordingly, since the claim is now in allowable condition in keeping with the decision of the Board of Appeals, the allowance of this claim is urged.

The final rejection of Claim 4 was affirmed by the Board of Appeals over the applicants' arguments in which the applicants argued that the references relied on did not disclose means for gripping the bottles about the neck thereof. The Board of Appeals pointed out in its decision, page 2, paragraph 2, that Claim 4, as written at the time of appeal to the Board of Appeals, was not limited to gripping means which grip the bottle about the mouth thereof but rather only recited gripping means which grip the bottle adjacent the mouth, the Board of Appeals particularly emphasizing the distinction between gripping means which grip the bottle about the mouth thereof and gripping means which grip the bottle adjacent the mouth. By this amendment applicants have amended Claim 4 so that it now specifically calls for gripping means which grip the bottle *about the mouth thereof*. As so amended,

it is submitted Claim 4 obviates the basis for rejection advanced by the Board of Appeals and allowance of the claim is, therefore, urged.

The rejection of Claim 6 was affirmed by the Board of Appeals, relying primarily on the disclosure of the patent to Ruprich. The Board, in its decision, stated that Claim 6 was very broadly worded and did not definitely state that the auxiliary bottle supports were located at a point in advance of the location of the mechanical releasing means or cam means which open the bottle engaging jaws. Obviously the Board rejected Claim 6 primarily because

of the broadness of this claim and just as obviously 341 indicated that if the claim were further limited by a specific recitation as to the specific location of the cam means which open the bottle engaging jaws then the claim apparently would be distinguishable from the references. Claim 6 has, therefore, been substantially amended by adding thereto the further limitation which specifically states that the auxiliary bottle supports are located in advance of the mechanical releasing means and further states that the auxiliary bottle supports are independent of the other bottle supporting structure. As so amended, it is respectfully submitted Claim 6 now contains the limitations which the Board, at least by implication, indicated would distinguish such a claim from the references of record. Accordingly, it is submitted that Claim 6 is now clearly distinguishable from the references of record, is in allowable condition and the allowance thereof is urged.

The rejection of Claim 7 was affirmed by the Board for reasons similar to those advanced with respect to Claim 6. Claim 7 has been further limited by this amendment in substantially the same manner as Claim 6 was limited thereby. In the rejection of Claims 7 and 6 the Board indicated that Claim 8, which the Board had held to be allowable over the references of record, was limited by the recitation that the auxiliary bottle support called for by Claim 8 was located at the loading station. Claim 7 has, therefore, been amended to insert therein the limitations similar to the limitations contained in Claim 8 which the Board implied distinguished that claim from the references of record. Accordingly, since Claim 7 has, therefore, been substantially limited by adding thereunto limitations

which the Board appeared to consider to distinguish
342 some of the appealed claims from the references of
record, the allowance of Claim 7, as now amended, is
urged.

Claim 52 has been substantially amended by adding
thereto various specific structural limitations. These lim-
itations are of the type which the Board, by implication,
indicated were the features which distinguished certain
other appealed claims from the references of record when
holding such other claims allowable. Claim 52 as now
amended, calls for a loading and an unloading station,
cam means for opening the bottle gripping jaws and inde-
pendent bottle supporting means in the path of travel
of the bottles at the loading station for supporting the
bottles until they are accurately gripped by the bottle
engaging jaws. It is respectfully submitted that Claim
52, as thus amended, is clearly and patentably distinguish-
able from the references of record and from the other
claims and includes various limitations which, in keeping
with the decision of the Board of Appeals, render the claim
distinguishable from the references and allowance thereof
is, therefore, urged.

New Claim 57 is a claim of the same general type which
the Examiner held to be allowable prior to appeal and also
of the type which the Board of Appeals held to be allow-
able in its decision in the instant application dated Janu-
ary 25, 1941. Claim 57 is directed to the same patentable
subject matter to which Claim 1 of U. S. patent 2,210,529
is directed. This patent, *i. e.*, 2,210,529, was granted
August 6, 1940, on an invention made by John R. Dostal
of Milwaukee, Wisconsin, for which patent an application
was filed October 26, 1939, bearing Serial No. 301,410. The

343 patent 2,210,529 has been assigned by direct and mesne
assignments to the Sturdy-Bilt Equipment Corpora-
tion of Milwaukee, Wisconsin. Though Claim 57 is
not a verbatim copy of any of the claims of the Dostal
patent 2,210,529, it in substance covers the same patentable
subject matter and contains the same recitation of the
structural elements which distinguish Claim 1 of the Dos-
tal patent 2,210,529 from the prior art and from the sub-
ject matter of the Dostal patents 2,094,398, 2,191,227,
2,210,530, 2,219,007, 2,223,060 and 2,223,846.

It should be noted that the above numbered Dostal patent 2,210,529 was granted on an application filed October 26, 1939, which is approximately $2\frac{1}{2}$ years subsequent to the filing date of the applicants' instant application. Claim 57 is in substance the same as Claim 1 of the Dostal patent 2,210,529. Claim 57 is inserted in this application with the request that an interference be declared between the instant application and the above numbered patent which contains claims directed to the same patentable subject matter. This request is in accordance with Rule 94 of the Rules of Practice which provides for such interferences between an application and a patent in such instances where the application and the patent contain claims to similar inventions. The subject matter claimed in Claim 57 has constituted the subject matter of claims in the instant application ever since it was filed May 6, 1937, $2\frac{1}{2}$ years prior to the filing date of the above numbered Dostal application. The patent to Dostal does not constitute a statutory bar to Claim 57 or any of the other claims in applicants' instant application. The subject matter of Claim 57 or the subject matter of any similar claims in the instant application has not been abandoned.

In fact, a great number of the claims now allowed in 344 the instant application is directed to the same subject matter. The Dostal patent above referred to and the instant application are not owned by the same parties. The above numbered Dostal patent which contains claims similar to Claim 57 has been granted within the last year, *i. e.*, approximately half a year ago, and was granted during the time that applicants' instant application was up for consideration by the Board of Appeals on appeal from the final rejection by the Primary Examiner of various claims therein. Applicants' instant application is not under final rejection, having just been the subject matter of a decision by the Board of Appeals.

Claim 57, as above set forth, may be applied to the bottle washing machine disclosing the preferred embodiment of applicants' invention as set forth in the instant application as follows:

The bottle washing machine casing called for by the claim would refer to the casing comprised of the lower portion 16 and top portion 17, as shown in Figure 1. The endless conveyor would be the conveyor 20 which travels

longitudinally in said casing. The pivotally connected, transversely extending flights having bottle neck receiving openings therein would be formed by the transversely extending frame elements 30 to which are rigidly fixed the partition strips 31 and 32 forming with the frame elements 30 the bottle neck receiving openings.

The flights formed by the frames 30 and the dividing strips 31 and 32 are pivotally connected by the pivots joining the adjacent links of the chains which comprise the conveyor 20 of the bottle washer. The movable bottle neck grippers carried by the bottle receiving flights would be the movable jaws or arms 33. These movable jaws

grip the bottles in one position and release them while 345 in another position. The means for automatically moving said movable jaws at certain predetermined times or stations would be the cams 53, as clearly shown in Figures 4 and 5 of this application, and the means rigidly secured to the casing and independent of the conveyor and disposed in the path of travel of the bottles for elevating the bottles into position and holding them thus until they are locked by the moving jaws would be the spring supports 62 and 63, as clearly shown in Figures 4 and 5 of this application. Accordingly, Claim 57 is clearly readable upon the disclosure of the instant application and is also clearly readable upon the disclosure of the Dostal patent 2,210,529.

In view of the preceding comments the allowance of Claims 1, 4, 6, 7 and 52 which have been substantially amended to include therein the distinguishing elements indicated by the Board of Appeals in its decision to impart patentability to similar claims in the instant application, the allowance of Claim 57, which is in substance the same as Claim 1 of the Dostal patent 2,210,529, and the declaration of an interference between the instant application and the Dostal patent 2,210,529 is respectfully urged.

Respectfully submitted,

Carl L. Trier and

Jesse W. Fogg,

By Norman E. H. Deletzke,
Attorney for Applicants.

Chicago, Illinois,
March 3, 1941.

347 PATENT OFFICE ACTION, MAR. 12, 1941.

The proposed amendment filed on Mar. 6, 1941 is refused entry, since it offers amendments in substance to claims 1, 4, 6, 7 and 52, the final rejection of which has been affirmed by the Board of Appeals, and since it offers a new claim for which there is no basis in the present disclosure.

The Board of Appeals made no recommendation for admitting any amendment to render any rejected claim patentable. The remarks indicating why the rejection of a claim was held proper should not be taken as an invitation to continue the prosecution or obtain claims in addition to those finally held allowable. The prosecution as to the merits of those claims is closed.

Proposed claim 57 is far from being a copy of claim 1 of Dostal, 2,210,529, on which it is said to be based, because it omits vital subject matter thereof such as slidably mounted latch plates and means for automatically sliding them. Applicant does not have any such plates or means, nor any equivalent thereof.

Proposed claim 57 asserts a means for elevating the bottles in the conveyor; but applicant has no such means. It is evident that the present disclosure does not support the claim.

It is clear that there is no basis for an interference with Dostal, and the request for interference is denied.

The amendment filed does not have the effect of extending the statutory period for response to the decision 348 of the Board of Appeals. Proper response is therefore due within six months from Jan. 25, 1941.

A. E. Dornethy,
Examiner.

349 PETITION FOR RECONSIDERATION.

Applicants respectfully petition that this case and the decision of the Board of Appeals rendered January 25, 1941, be reconsidered by the Board of Appeals with respect only to Claims 1, 4, 6, 7 and 52 which applicants have offered to amend by an amendment filed March 6, 1941. The request for reconsideration is based on the reasons set forth below.

The Board, in rejecting Claim 1 in its decision of January 25, 1941, stated:

"The claim states no structural arrangement which would prevent the bottles touching the frame and so far as structure is concerned, claim 1 does not define invention over Wynne, *et al.*"

Applicants, by the amendment filed March 6, 1941, have offered to amend Claim 1 by adding in line 8 thereof after "means," the following:

—each of said gripping and supporting jaws having bottle gripping faces removed from the supporting frame and being complementary to the outer periphery of a bottle about the mouth thereof,—.

By this amendatory matter Claim 1 is limited to the recital of a structural arrangement which would prevent the bottles from touching the bottle supporting frame and is still further distinguished from the patent to Winne, *et al.* In none of the bottle gripping devices shown in the patent to Winne, *et al.*, is there an element disclosed for gripping the bottle by means complementary to the bead or ring around the mouth of the bottle.

Accordingly the amendatory matter for Claim 1 submitted in the amendment filed March 6, 1941, clearly obviates the objection to the allowance of Claim 1 stated by the Board of Appeals in its decision of January 25, 1941, and the claim is now in condition for allowance.

In the rejection of Claim 4 the Board, in its decision, pointed out that the applicants contended Claim 4 was distinguishable from the patent to Wachs, *et al.*, for the reason that the claim called for a bottle gripping means which engaged the bottle *about the mouth thereof*. The Board, in its decision, then proceeded to point out that Claim 4

did not specify a gripping means which engaged the bottle *about the mouth thereof* but rather only specified that the bottle gripping means engaged the bottle adjacent the mouth and that the bottle grippers of Wachs, *et al.*, also gripped the bottle adjacent the mouth.

Applicants have offered by the amendment filed March 6, 1941, to amend Claim 4 by changing the work "adjacent" to —about—, thereby limiting Claim 4 to the use of bottle gripping devices which grip the bottle about the mouth thereof instead of adjacent the mouth thereof. It is thought that this amendment to Claim 4 would obviate the reason for the objection to the allowance thereof as set forth in the decision of the Board, and accordingly, it is submitted that Claim 4, as so amended, would then be allowable.

With respect to Claims 6 and 7, the rejection thereof was apparently affirmed by the Board of Appeals for the reason that these claims, as originally appealed, did not definitely state that the auxiliary bottle supports were located at a point in advance of the location of the mechanical releasing means. The amendment of March 6, 1941, would add to both Claim 6 and Claim 7 a further limitation to the effect that the auxiliary bottle supports were to be located at a point in advance of the location of the mechanical bottle releasing means.

The Board, in its decision, indicated that Claim 8 was allowable because it contained such a limitation. It is, therefore, submitted that Claim 6 and 7, when amended as applicants have now offered to amend same, would be allowable precisely for the same reason as the Board indicated was the basis upon which it relied in allowing Claim 8. It is, therefore, deemed that Claims 6 and 7, when so amended, would be allowable over the art of record.

In affirming the rejection of Claim 52, the Board indicated that it was obvious to use hinged jaws in place of sliding jaws and that hinged jaws were common matter in several of the reference patents of record. By the amendment tendered March 6, 1941, applicants have offered to substantially limit Claim 52 by specifying that the bottle washer is equipped with loading and unloading stations, cam means for opening the complementary jaws at the loading and unloading stations and independent means in the path

of travel of the necks of the bottles at the loading stations for supporting the bottles in position for jaw engagement until the jaws have become disengaged from the cam means which open the jaws. Claim 52, when amended as proposed by the applicants would clearly distinguish from all of the references of record and would further contain the same limitations which the Board has indicated constituted the distinguishing features upon which it relied in allowing Claim 8. Accordingly, it is thought Claim 52, when so amended, would be in condition for allowance.

352 Claim 57 submitted with the amendment filed March 6, 1941, is directed to the same subject matter which constituted the basis upon which the Board held Claim 8 allowable, *i. e.*, the means for supporting a bottle in jaw engaging position until the jaws have been released by the cam means at the loading station.

Claim 57 is based in substance upon Claim 1 of the Dostal patent 2,210,529 and in the amendment filed March 6, 1941, the entrance of which amendment was refused, the applicants requested the declaration of an interference between the applicants' above identified application and the Dostal patent 2,210,529. Each of the Claims of the Dostal patent 2,210,529 is limited by the recital of a structural element comprising means secured to the casing of the bottle washer and independent of the conveyor and disposed in the path of travel of the bottles for elevating the bottles in the conveyor to a bottle locking position.

In the applicants' device this is accomplished by the elements 62 and 63, as clearly shown in Figure 2. In the Dostal device this evidently is accomplished by the elements 37, 38 and 40, all of which comprise parts of a grate, as shown in Figure 3. The Dostal patent 2,210,529 was granted August 6, 1940, at which time the appeal in the present application was pending before the Board of Appeals.

The amendment submitted by applicants March 6, 1941, has been refused entry by the Primary Examiner. Therefore, this case is still pending before the Board of Appeals in view of the fact that six months have not yet elapsed since the decision of the Board of Appeals which was dated January 25, 1941. Accordingly, the applicants,

to comply with the Rules of Practice if they desired 353 to request the declaration of an interference between their above identified application and the Dostal patent 2,210,529, were obligated to copy or substantially copy claims from that patent which they offered to do in the amendment submitted March 6, 1941, before the expiration of one year from August 6, 1940. It is, therefore, submitted that Claim 57 is proper subject matter for the consideration of the Board of Appeals since it is directed to the same subject matter covered by claims previously filed in this same application, which previously filed claims, such as Claim 8, have previously been considered by the Board of Appeals. The above is true especially in view of the fact that the only elements of any of the claims of Dostal 2,210,529 which distinguishes those claims from the prior art and the previous granted Dostal patents, as clearly explained in the amendment of March 6, 1941, relates to the same subject matter which the Board indicated constituted the elements which rendered Claim 8 of the above identified application allowable.

The request for reconsideration and the allowance of Claims 1, 4, 6, 7 and 52 in an amended form as proposed by the applicants in the amendment submitted March 6, 1941, the submission of which is hereby repeated, is based primarily on the very recent decision of the Board of Appeals in *Ex parte Eaton*, 49 U. S. P. Q. 683. In that case the Board, upon reconsideration, allowed a claim previously rejected. The allowance, on reconsideration, of the previously rejected claim was based on the fact that the applicant's proposed amendment to the previously rejected claim, which was filed with the request for reconsideration, rendered the claim patentable because it 354 incorporated in the claim essential limitations which the Board had held rendered other claims of the same application patentable. The factual situation in the *Eaton case, supra*, is an identical duplicate of that presented by the instant request for reconsideration of Claims 1, 4, 6, 7 and 52.

The request for reconsideration is also in keeping with the decision in *Ex parte Stringham*, 1927 C. D. 27.

It is submitted that the amendments to Claims 1, 4, 6,

7 and 52 clearly avoid all of the references of record and that the amendments to these claims include the same subject matter which the Board has previously indicated constituted the basis for the allowance of previously allowed claims. It is further submitted that the Examiner's action in refusing to enter the amendment of March 6, 1941, is contrary to the second paragraph of Rule 139 which states, when referring to the decision of the Board of Appeals in an appeal from the Primary Examiner:

"This statement of the board of appeals, if adverse to applicant's right to a patent, will reopen the case for amendment or showing of facts, or both, before the primary examiner responsive thereto. * * *"

Applicants have submitted such an amendment but the Examiner has refused to enter the same. Accordingly, the applicants now, in keeping with the decision of the Board of Appeals in *Ex parte Eaton, supra*, now requests reconsideration of the previously rejected Claims 1, 4, 6, 7 and 52 on the basis and in the light of the amendments to these claims as proposed by the applicants in the amendment submitted March 6, 1941, which amendment is herewith resubmitted to the Board of Appeals and consideration thereof requested.

355

CONCLUSION.

In conclusion, the applicants petition the Honorable Board of Appeals to reconsider its opinion with respect to the rejection of Claims 1, 4, 6, 7 and 52 in the light of the amendment submitted by the applicants March 6, 1941. The applicants, by such amendment, have incorporated in each of Claims 1, 4, 6, 7 and 52 limitations which the Board in its decision of January 25, 1941, indicated comprised the basis for the allowance of other claims in the instant application. Applicants, therefore, petition the Board to reconsider its opinion in this case as rendered January 25, 1941, with respect to Claims 1, 4, 6, 7 and 52 and hold these claims allowable as amended. It is further peti-

tioned that all proceedings herein be stayed pending the determination of this petition.

Respectfully submitted,

Carl L. Trier and Jesse W. Fogg,
By Norman E. H. Deletzke,
Attorney for Applicants.

Chicago, Illinois,
July 7, 1941.

356 ON REQUEST FOR RECONSIDERATION,
JULY 16, 1941.

Appellants have requested reconsideration of our decision dated January 25, 1941.

This petition comes long after the expiration of the time limit of appeal, which is forty days. See *Scott v. Brooks*, 1895 C. D., 814 and *Ex parte Messinger*, 1897 C. D., 1.

We made no recommendation for amendment in our decision and this petition is concerned with amended claims and a new claim. The examiner has not entered the amendment.

The petition is denied.

W. L. Redrow,
Examiner in Chief,
E. T. Morgan,
Examiner in Chief,
F. J. Porter,
Examiner in Chief,
Board of Appeals.

Mr. Norman E. H. Deletzke,
c/o Cherry-Burrell Corp.,
427 W. Randolph Street,
Chicago, Ill.

Plf. Ex. 3, 3A, 3B, 4 & 5 to follow

Pages 61 to 82

Exhibit 3	Pages 61-63
3A	63-67
3B	69-71
4	73
5	75

March 5, 1937

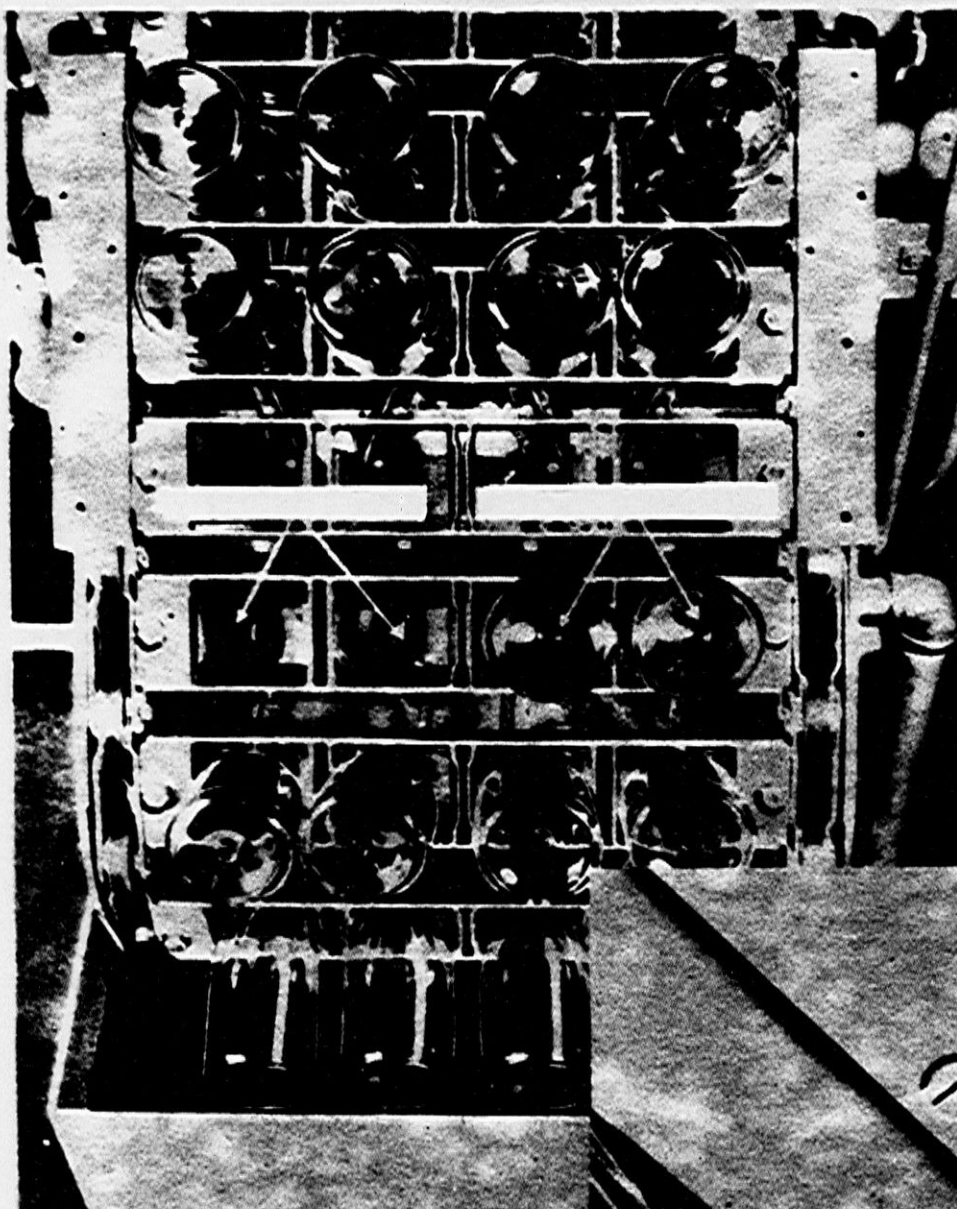
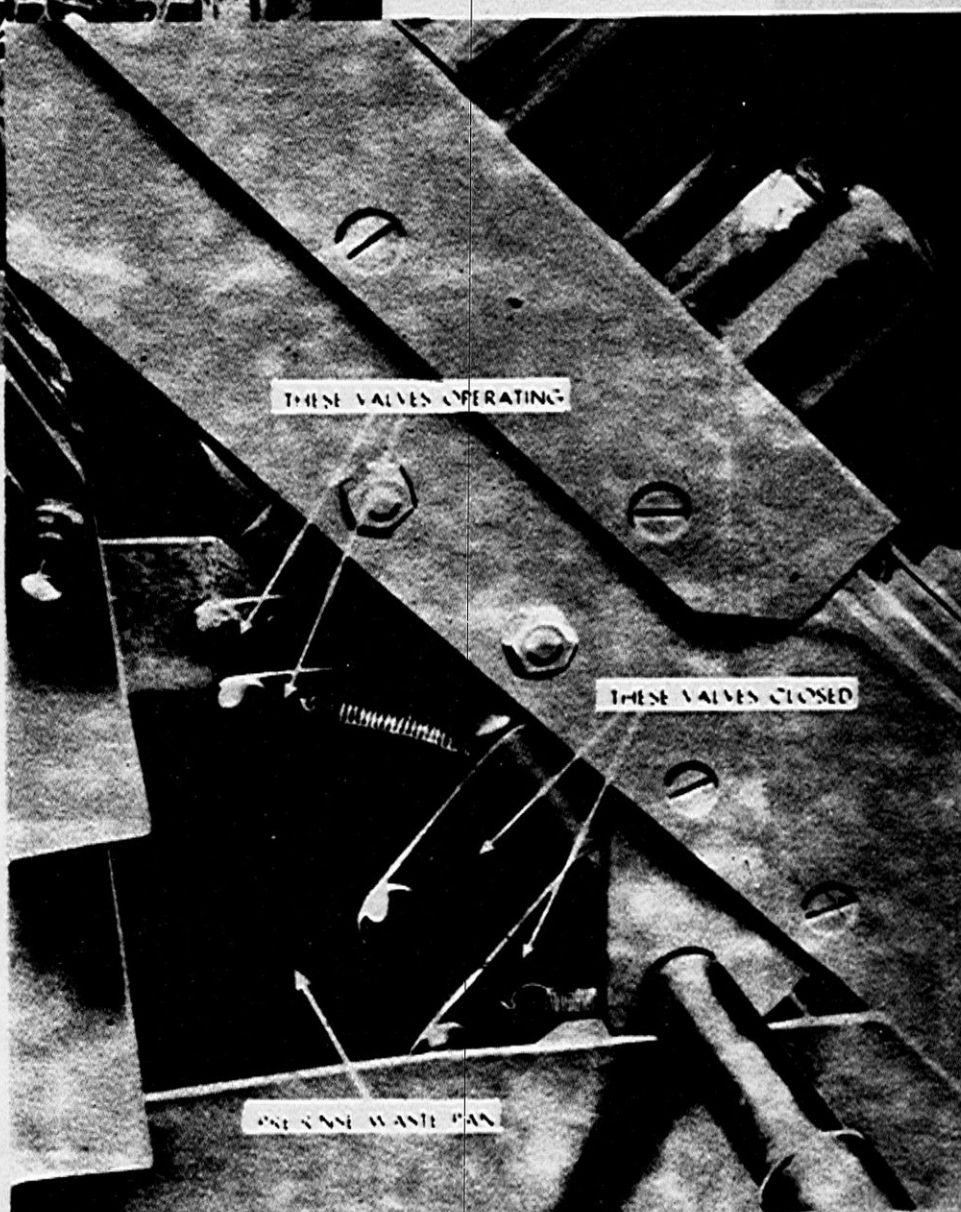


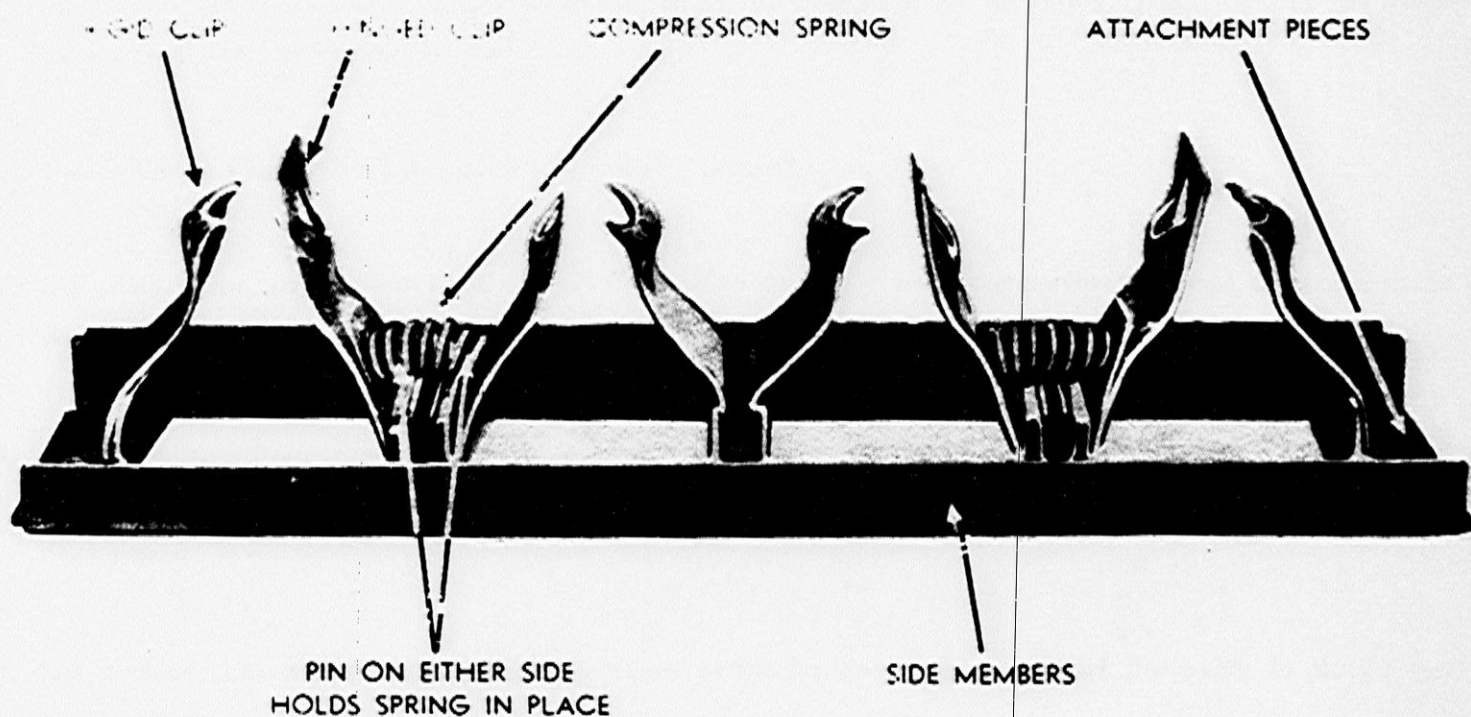
Figure 26

Front view - automatic pre-rinse position. The two right-hand sections of the bottle carrier are filled, hence pre-rinse is open under these bottles. On the contrary, the two left sections of the carrier are empty; hence these pre-rinse valves are not operating.

Figure 27

Left side view - automatic pre-rinse. Bottles in same portion of bottle carrier. The two valves at the top of the view are open, the two front valves closed.





BALTIMORE BOTTLE CARRIER

(Patent applied for)

The bottle carrier used in this machine is undoubtedly the most important feature. The outstanding details are:

1. Complete exposure of the outside of the bottles to all outside treatments.
 2. Complete exposure of the mouth of the bottles to all inside treatments.
 3. Special spring tension holder clips insuring absolute centering of the mouth of the bottle, irrespective of the size.
- This is not true of the basket type carriers in which pint and $\frac{1}{2}$ pint bottles may often lie at an angle.

February 1937

2

4. The bottles remain firmly fixed in the carrier throughout the entire washing, without the use of supporting tracks or false bottom in the soak tank.
5. Patented spring tension feature makes this carrier superior to any other positive action clamp type holder. The bottles being held by the bead around the mouth, eliminates any vertical motion of the bottle whether right side up in the soak tank or inverted above the wash and rinse treatments. Clamp type holders without springs usually hold the bottle below the bead and in order to take care of variations such as fluted or ring-neck bottles must have some play. This allows up and down motion of the bottle carried at various angles through the washer and causes scratching at the point of contact.
6. The Baltimore Carrier is made entirely of smooth, pressed steel.
7. Individual bottle divisions are square. Thus the welded corners of each compartment cannot contact a round bottle, eliminating scratching from this source.
8. Simple positive fixed cams release the entire spring tension on the bottle at the discharge and infeeding position. This eliminates any hard contact between the bottles and the carrier either hand removed or automatic discharge.
9. Similar fixed cams hold the springs in compression at the loading position so that the bottle is placed freely in the carrier.
10. Extreme light weight saves steam. Every carrier is first heated entering the soak tank and then cooled in subsequent treatment before re-entering the soak tank. Hence the less metal used in a carrier, the less steam will be consumed in keeping the soak solution at the desired temperature.
11. There are no sliding contacts between the bottles and the bottom of the soak tank in the washer, which reduces the electric power consumption.
12. The Baltimore Bottle Carrier will handle any size or shape of bottle having a beaded neck.
13. Bottles being firmly held, higher pressure can be used on the inside treatments without incurring the risk of lifting 1/2 pint bottles from the carriers and thus eliminates any possibility of jamming.

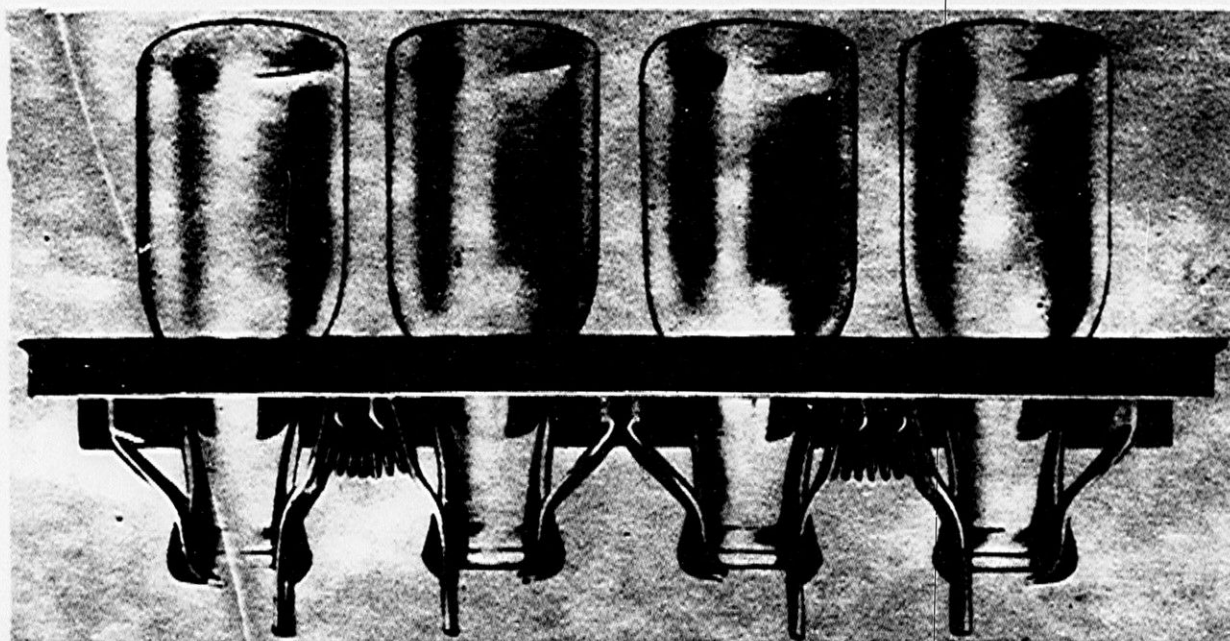


Figure 28

This view shows the bottle carrier carrying quart bottles.

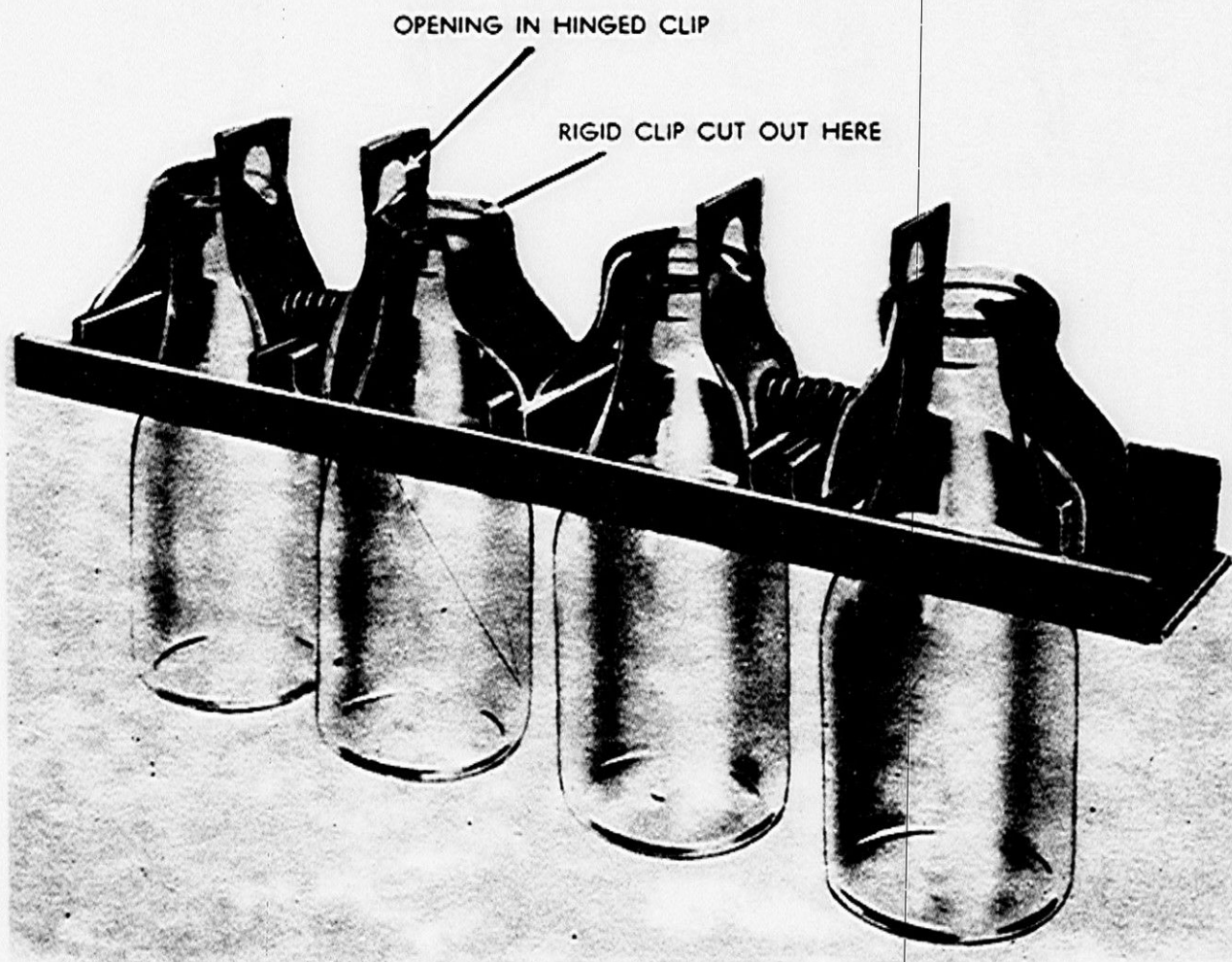


Figure 29 •

This carrier is holding quart bottles. The mouth of the bottle cannot shift in any direction. Note the entire pouring lip is exposed to the soak, wash, rinse, and chlorine treatments.

March 5, 1937

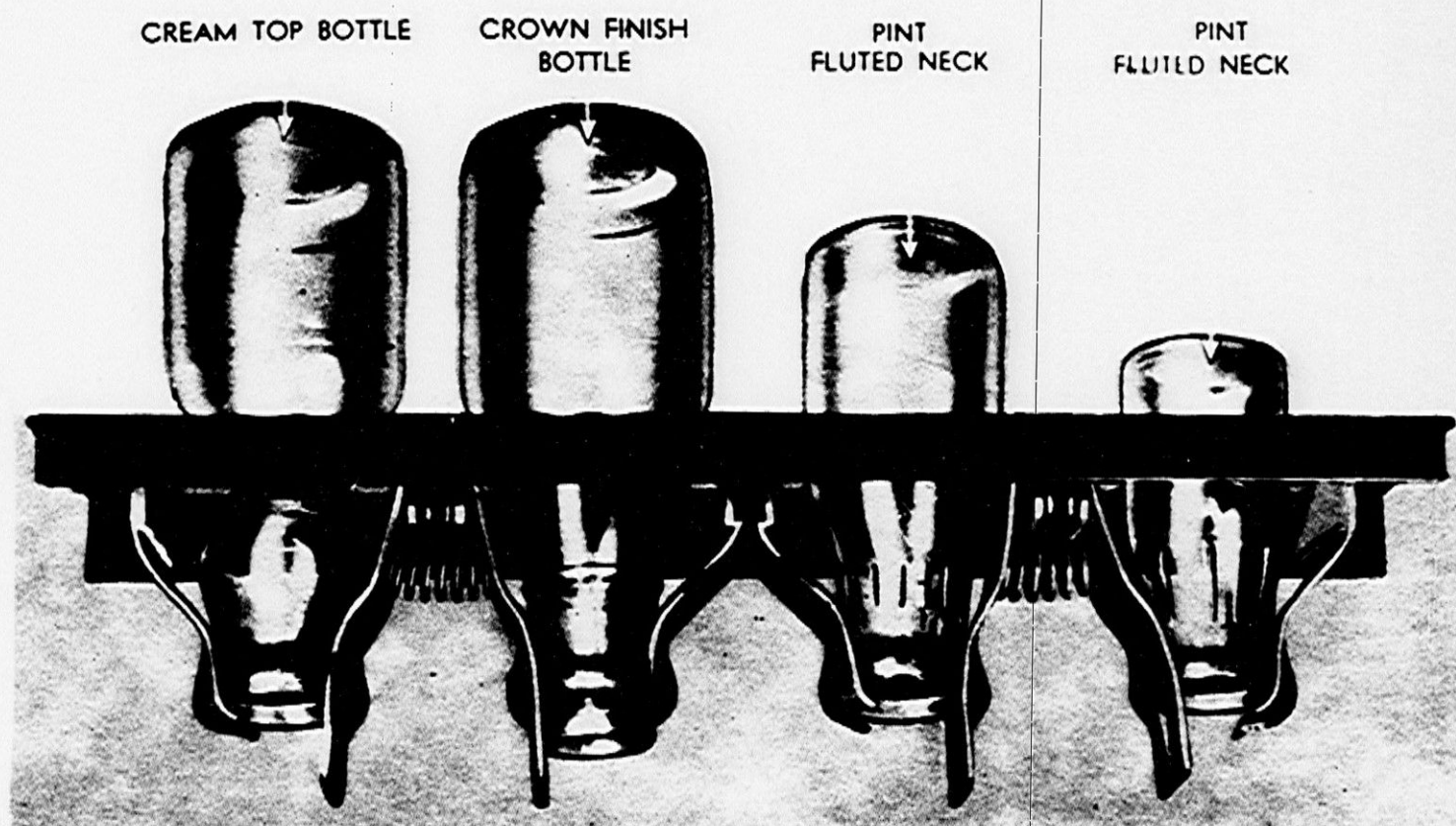


Figure 30

This view shows the carrier holding various types of milk bottles. Hinged clip has an opening cut through the extension and rigid clip has been cut out to expose both the cap seat and the mouth of the bottle completely. All outside surface of the bottle is completely exposed.

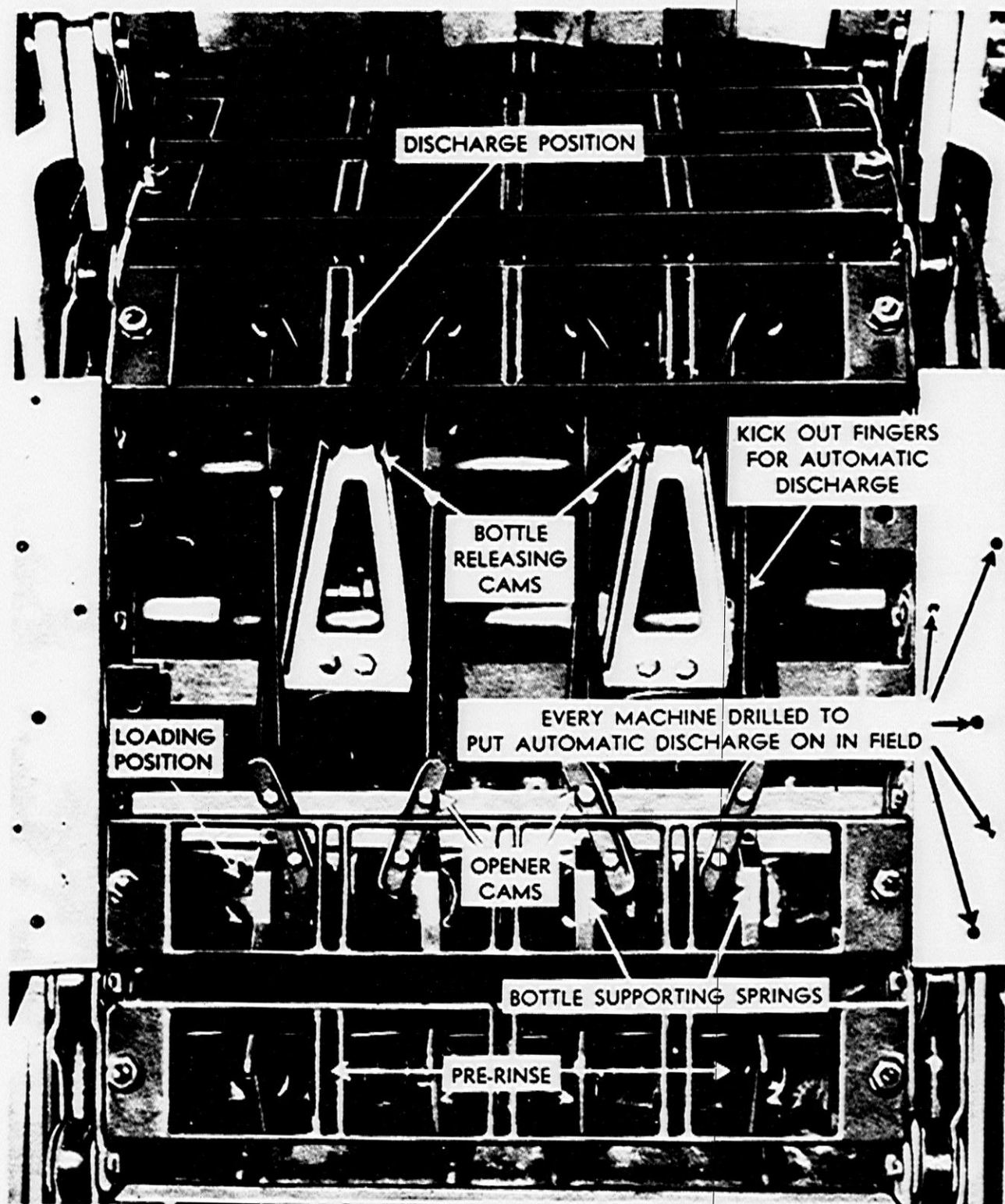


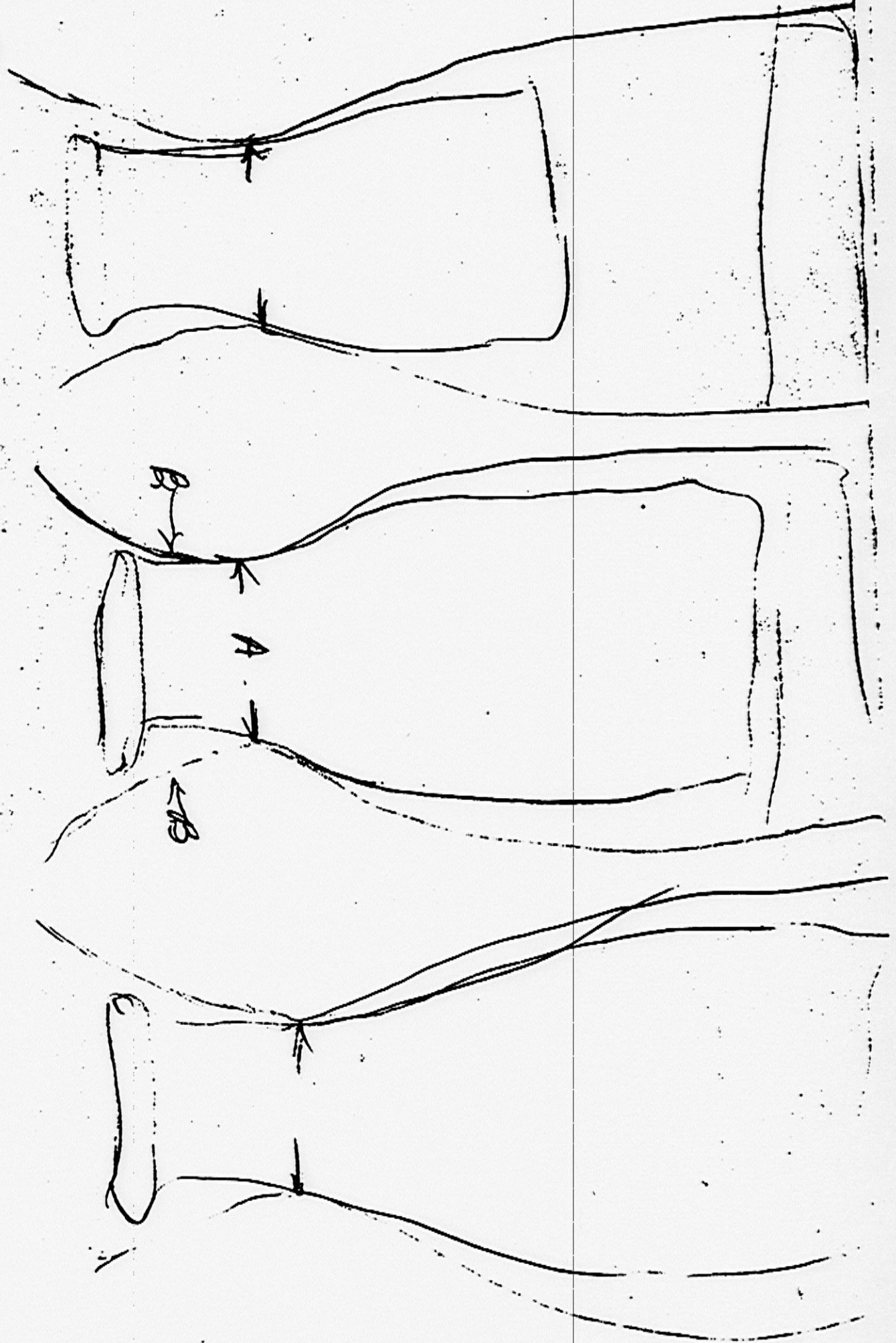
Figure 31

Front view - hand infeed - automatic discharge model showing the carrier bottle releasing cams. Carriers are released at the discharge. At this time the bottle ejectors lift, pushing the bottles on the set-up table.

Carriers are open at the feed position preparatory to receiving the bottles. Observe the support spring at the bottom of the carrier on which the bottle drops, rather than on a rigid metal surface.

c. a. 12257

Ref. 4



Aug. 6, 1940.

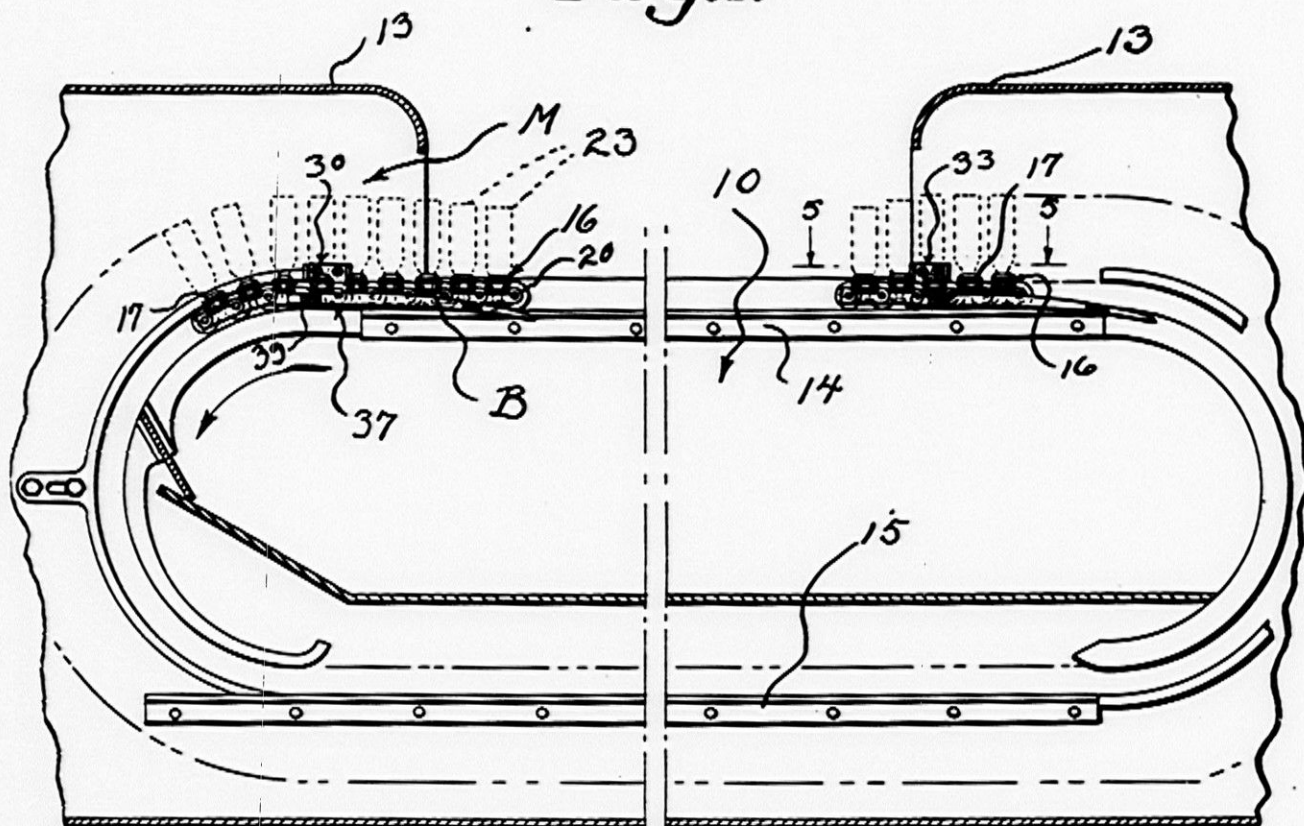
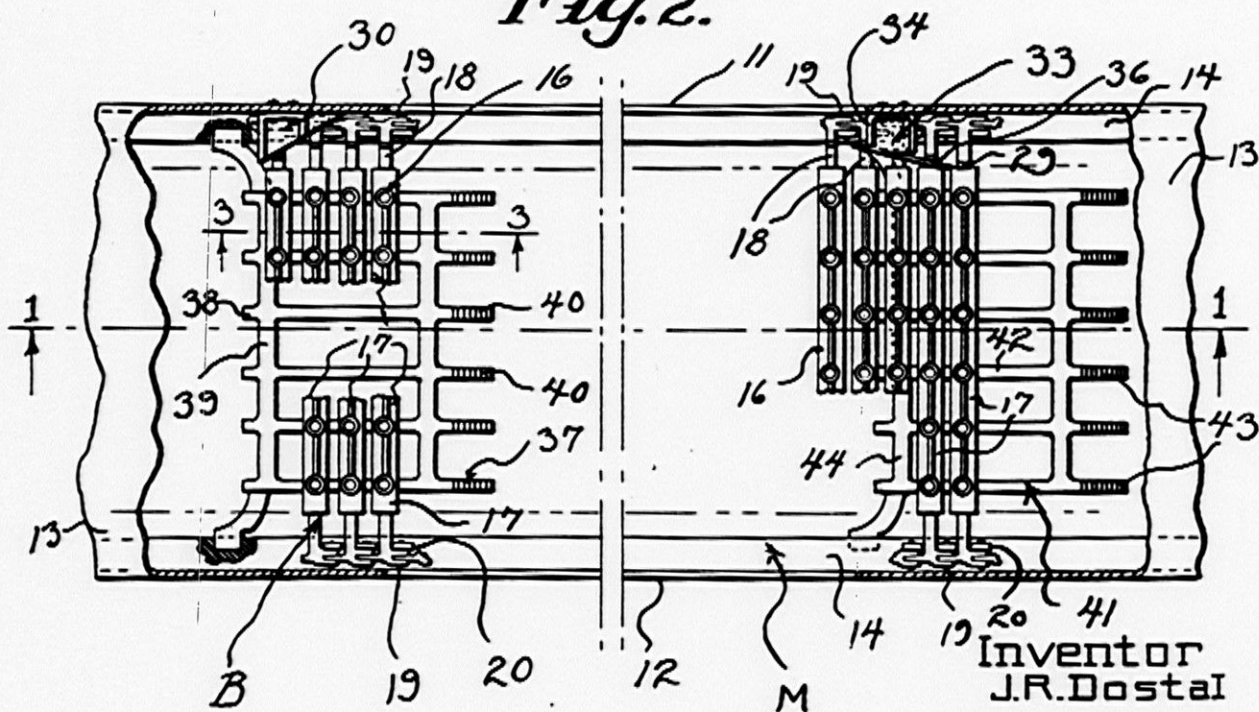
J. R. DOSTAL

2,210,529

CONVEYER FOR BOTTLE-WASHING MACHINE

Filed Oct. 26, 1939

2 Sheets-Sheet 1

Fig. 1.*Fig. 2.*Inventor
J.R. Dostal

By

Attorneys

Aug. 6, 1940.

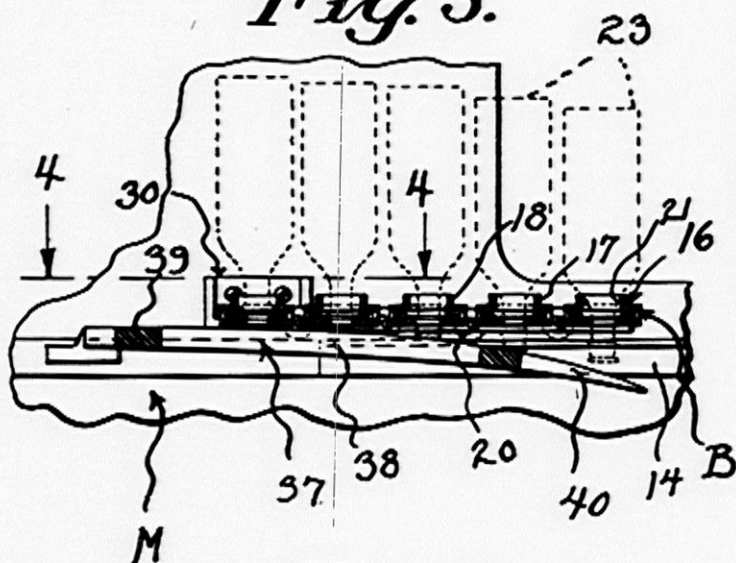
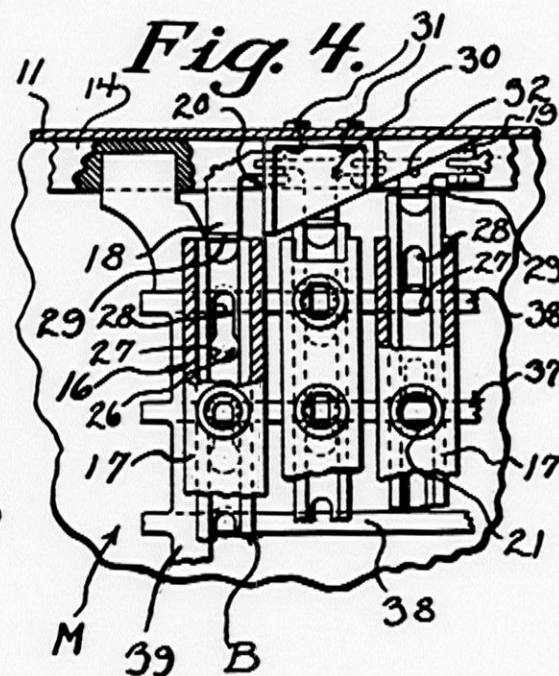
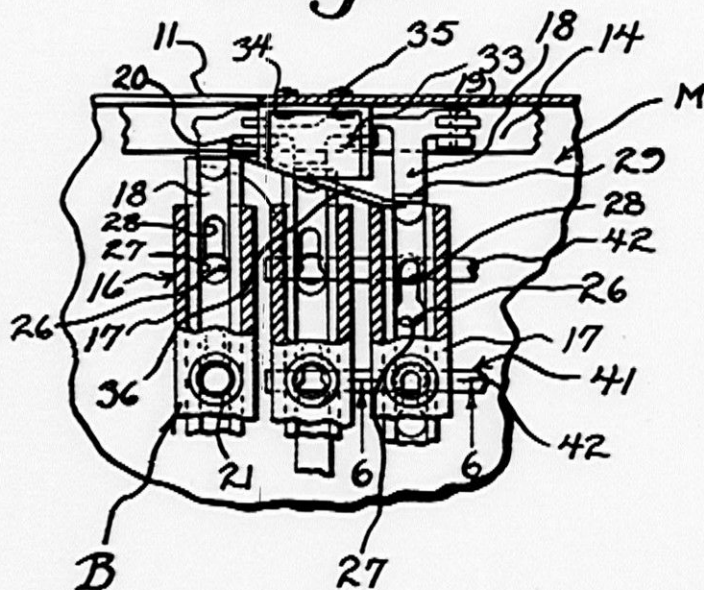
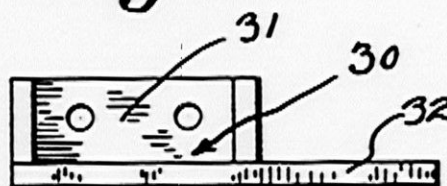
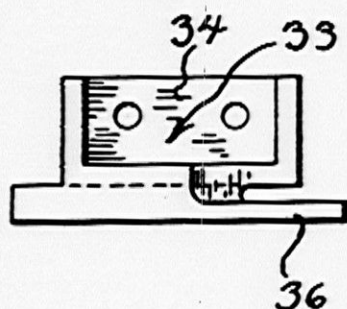
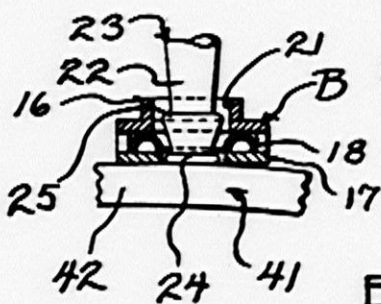
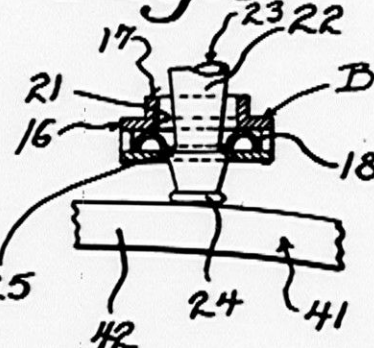
J. R. DOSTAL

2,210,529

CONVEYER FOR BOTTLE-WASHING MACHINE

Filed Oct. 26, 1939

2 Sheets-Sheet 2

Fig. 3.*Fig. 4.**Fig. 5.**Fig. 8.**Fig. 9.**Fig. 6.**Fig. 7.*Inventor
J. R. Dostal

By

Attorneys

UNITED STATES PATENT OFFICE

2,210,529

CONVEYER FOR BOTTLE-WASHING MACHINE

John R. Dostal, Milwaukee, Wis., assignor, by direct and mesne assignments, to Sturdy-Bilt Equipment Corporation, Milwaukee, Wis.

Application October 26, 1939, Serial No. 301,410

5 Claims. (Cl. 198—29)

This invention appertains to bottle-washing machines, and is an improvement over the machine shown in Patent No. 2,094,398, issued to me September 28, 1937.

In my mentioned patent, I illustrated sliding latch plates for engaging and holding a plurality of bottles on an endless conveyer or carrier.

The present invention has for one of its primary objects the provision of means for improving the bottle neck latching device, whereby narrow-neck bottles (such as beer bottles) can be conveniently locked and carried either at their bottle cap flange or the ridge or neck flange near the body of the bottle.

Another salient object of my invention is to provide novel grid members located adjacent the bottle loading and unloading ends of the washing machine for engaging the bottle necks, whereby to limit the insertion of the bottles in the carriers, and to line up the necks to facilitate the latching thereof and to facilitate the raising and removal of the bottles from the conveyer after the bottles have been washed.

With these and other objects in view, the invention consists in the novel construction, arrangement, and formation of parts, as will be hereinafter more specifically described, claimed, and illustrated in the accompanying drawings, in which drawings:

Figure 1 is a fragmentary, longitudinal, sectional view taken through a bottle-washing machine constructed in accordance with my invention, the view being taken substantially on the line 1—1 of Figure 2.

Figure 2 is a fragmentary top plan view of the washing machine constructed in accordance with my invention.

Figure 3 is an enlarged, detail, fragmentary, longitudinal, sectional view through a portion of the machine, taken on the line 3—3 of Figure 2, looking in the direction of the arrows.

Figure 4 is a horizontal, sectional view taken substantially on the line 4—4 of Figure 3, looking in the direction of the arrows.

Figure 5 is a view similar to Figure 4, the section being taken substantially on the line 5—5 of Figure 1, looking in the direction of the arrows.

Figure 6 is a detail, sectional view taken on the line 6—6 of Figure 5, looking in the direction of the arrows, showing a bottle latched and held at its bottle cap flange.

Figure 7 is a view similar to Figure 6, but showing a bottle latched and held at its neck flange or ridge.

Figure 8 is a detail, side elevational view of the

wedge plate for bringing about the movement of the latch plates to their locking positions.

Figure 9 is a detail, side, elevational view of the cam plate or track for moving the latch plates to their bottle-releasing positions.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views, the letter M generally indicates a bottle-washing machine, which includes an endless conveyer belt B.

The present invention resides in the novel means of handling the bottles, and, hence, the machine M can be considered of any preferred character, and only sufficient portions thereof have been illustrated to show the use of the belt.

The washing machine M may include a casing 10 having spaced, parallel side walls 11 and 12, and a top wall 13. The top wall 13 and the side walls 11 and 12 are so constructed as to provide an opening in the casing 10, whereby the bottles can be placed on and removed from the belt B. The inner faces of the side walls 11 and 12 of the casing are provided with upper and lower runway tracks 14 and 15, over which the belt travels; and means is provided for forcibly driving the belt, so that the same will continuously travel in one direction in the casing.

The conveyer belt B comprises a plurality of transversely extending flights or links 16, and each of these flights or links 16 includes a main body portion 17, which is of hollow construction for slidably receiving and guiding the latch plates 18. The ends of the body portions 17 of the links or flights carry ears, whereby the same can be hingedly connected by pivot pins 19. These pivot pins 19 carry anti-friction rollers 20 for engaging the tracks 14 and 15.

The upper and lower walls of the hollow body portion 17 are provided with aligned openings 21 for receiving the elongated necks 22 of the bottles 23. The bottles can be of any preferred shape or character, but, as illustrated, the same are of the conventional beer bottle type, and, hence, the necks have secured thereon a bottle cap sealing flange 24 and a bottle neck flange or ridge 25. The latch plate 18 can be employed for locking the bottles to the links or flights either at the bottle cap flange 24 or at the neck flange or ridge 25.

Each of the sliding latch plates 18 has formed therein a longitudinally extending row of equidistantly spaced keyhole slots 26. When the enlarged portions 27 of the keyhole slots align with the openings 21, bottle necks can be easily in-

serted or removed from the links or flights 16. When the narrow portions 28 of the keyhole slots move past the openings 21, the walls of the narrow portions of the slots are adapted to grip and engage the necks of the bottles inwardly of the cap flanges 24 or the neck flanges 25, as the case may be.

The latch plates terminate at their outer ends on one side with upstanding lugs 29, which serve as means for moving the latch plates back and forth in the hollow guide bodies 17, as will be later described.

By referring to Figures 1 and 2, it will be seen that bottles to be washed are inserted in the links or flights at the left-hand side of the machine, and the bottles are then locked on the belt and carried through the machine and washed. The bottles are removed from the belt at the right-hand side of the machine.

To bring about the automatic locking and releasing of the bottles, the machine, at the left-hand side thereof, is provided with a latching trip shoe 30. This shoe 30 is in the nature of a bracket and is securely bolted, as at 31, to the side wall 11 of the body of the machine. The bracket 30 has formed thereon or secured thereto the wedge-shaped plate 32. As the flights ride toward the left-hand end of the machine, the upstanding lugs 29 thereof engage the inclined surface of the wedge-shaped plate 32, and this inclined surface gradually moves the latch plates inwardly, as is clearly shown in Figure 4 of the drawings, to their latching positions. Thus, an operator is positioned at the left-hand side of the machine, and bottles are quickly inserted with their necks down into the openings 21, and as the belt moves along, the latch plates will slide inwardly to their locking positions.

At the right-hand side of the machine, I provide a releasing or trip shoe 33. This releasing shoe 33 includes a bracket 34, which is securely bolted, as at 35, to the slide wall 11 of the body of the machine, and this bracket carries an inclined cam track 36. As the flights 16 carrying the bottles ride toward the cam tracks 36, the lugs 29 on the latch plates engage the tracks, and the tracks slide the plates outwardly, and align the enlarged portions 27 of the keyhole slots with the openings 21; and, thus, an operator standing at the right-hand side of the machine can pull the bottles from the conveyer belt.

In order to facilitate the proper lining up of the bottles transversely of the machine, so that the same will all be simultaneously latched by the latch plates 18, I provide a grid 37 at the left-hand side of the machine. This grid includes guide bars 38 connected by cross-pieces 39, which can be securely anchored to the side walls 11 and 12 of the body of the machine, or to the track 14. The forward ends of the bars 38 are inclined downwardly, as at 40. When the bottles are inserted in the links or flights, the lower ends thereof ride on the forward inclined portions 40 of the bars 38, and these bars gradually push the bottles upwardly and hold all of the bottles in proper alignment. As the bottles are all held at the same height by the bars 38, the latch plates will engage and hold the bottles at the same points.

There is some play of the bottles in the flights, even after the latch plates are moved to their locking position. Consequently, during the travel of the bottles, the same may wedge themselves down in the openings and slots of the links or

flights; hence, I dispose a grid 41 at the right-hand or unloading side of the machine. This grid 41 is similar to the grid 37, and, hence, includes a plurality of longitudinally extending, equidistantly spaced bars 42, having their leading ends inclined downwardly, as at 43. The bars 42 are connected by crosspieces 44, and the grid is securely fastened to the machine. As the washed bottles ride toward the grid 41, the necks thereof will engage the inclined portions 43 thereof, and the bottle necks will ride up on the bars 42. If any of the bottles are pushed down in the flights, the bottles will slide up in the flights and latch plates, which will facilitate the movement of the latch plates to their open positions.

In Figure 6 of the drawings, the grid 41 is shown arranged relatively close to the links, and, thus, the bottle necks will be held adjacent their bottle cap flanges 24. In Figure 7, the grid is shown spaced a slight distance from the links of the conveyer belt, and, hence, the bottles will be latched adjacent their bottle neck flanges 25.

From the foregoing description, it can be seen that I have provided an exceptionally simple and durable mechanism for facilitating the latching and releasing of bottles from the endless carriers of bottle-washing machines.

Changes in details may be made without departing from the spirit or the scope of my invention, but what I claim as new is:

1. In a bottle-washing machine, a casing, an endless conveyer for longitudinal travel in the casing including a plurality of pivotally connected, transversely extending flights having bottle neck-receiving openings therein, latch plates slidably mounted on the flights for releasably gripping the bottle necks when the latch plates are in one position, and for releasing the bottle necks when in another position, means for automatically sliding the slide plates longitudinally on the flights at certain predetermined times, and means rigidly secured to the casing and independent of the conveyer and disposed in the path of the travel of the bottles for elevating the bottles in the conveyer to a bottle-locking position.

2. In a bottle-washing machine, a casing, an endless conveyer for longitudinal travel in the casing including a plurality of pivotally connected, transversely extending flights having bottle neck-receiving openings therein, latch plates slidably mounted on the flights for releasably gripping the bottle necks when the latch plates are in one position, and for releasing the bottle necks when in another position, means for automatically sliding the slide plates longitudinally on the flights at certain predetermined times, means secured to the casing independent of the conveyer and disposed in the path of travel of the bottles for elevating the bottles in said conveyer to a bottle-locking position, and means for supporting and raising the bottles at the unloading end of the machine, whereby to facilitate the releasing of the bottles by the latch plates.

3. In a bottle-washing machine, a casing, an endless conveyer for longitudinal travel in the casing including a plurality of pivotally connected, transversely extending flights having bottle neck-receiving openings therein, latch plates slidably mounted on the flights for releasably gripping the bottle necks when the latch plates are in one position, and for releasing the bottle necks when in another position, means for automatically sliding the latch plates longitudinally on the flights at certain predetermined times,

and means rigidly secured to the casing located at the unloading end of the machine for supporting and alining the bottles independently of the conveyer during the releasing of the bottles by the latch plates.

- 5 4. In a bottle-washing machine, a casing, an endless conveyer for longitudinal travel in the casing including a plurality of pivotally connected, transversely extending flights having bottle
10 neck-receiving openings therein, bottles having bottle cap-locking flanges thereon adapted to be loosely placed in said openings, latch plates slidably carried by the flights for releasably gripping the bottle necks just above said flanges when the
15 latch plates are in one position, and for releasing the bottle necks when in another position, means for automatically sliding the plates longitudinally of the flights at certain times, and means rigidly secured to the casing independently of the conveyer and disposed in the path of the travel of
20 the bottles for elevating the bottles in said con-

veyer to a bottle-locking position with the flanges just inward of the latch plates.

- 5 5. In a bottle-washing machine, a casing, an endless conveyer for travel longitudinally of the casing including a plurality of pivotally transversely extending flights having bottle neck-receiving openings therein, latch plates slidably mounted on the flights for releasably gripping the bottle necks when the latch plates are in one position and for releasing the bottle necks when
10 the latch plates are in another position, means for automatically sliding the latch plates longitudinally in the flights at certain predetermined times, and means rigidly carried by the casing for engaging the outer ends of the bottle necks
15 for supporting the bottles independent of the conveyer at the loading and unloading stations and during movement of the latch plates, whereby to facilitate the locking and unlocking of the bottle necks by the latch plates.
20

JOHN R. DOSTAL.

371 Cherry-Burrell Corporation *vs.* Coe—Civil Action
No. 12,257.

A—Goldman,	1,012,843
B—Wachs <i>et al.</i> ,	1,213,308
C—Anderson,	1,577,092
D—Harold <i>et al.</i> ,	1,824,993
E—Wynne <i>et al.</i> ,	1,934,250
F—Lozowsky,	1,789,684
G—Ruprich, German,	524,003
H—Print of Drawings,	
I—Examiner's Statement,	
J—Decision of the Board of Appeals.	

Filed Mar. 6, 1943. Charles E. Stewart, Clerk.

S. L. GOLDMAN.

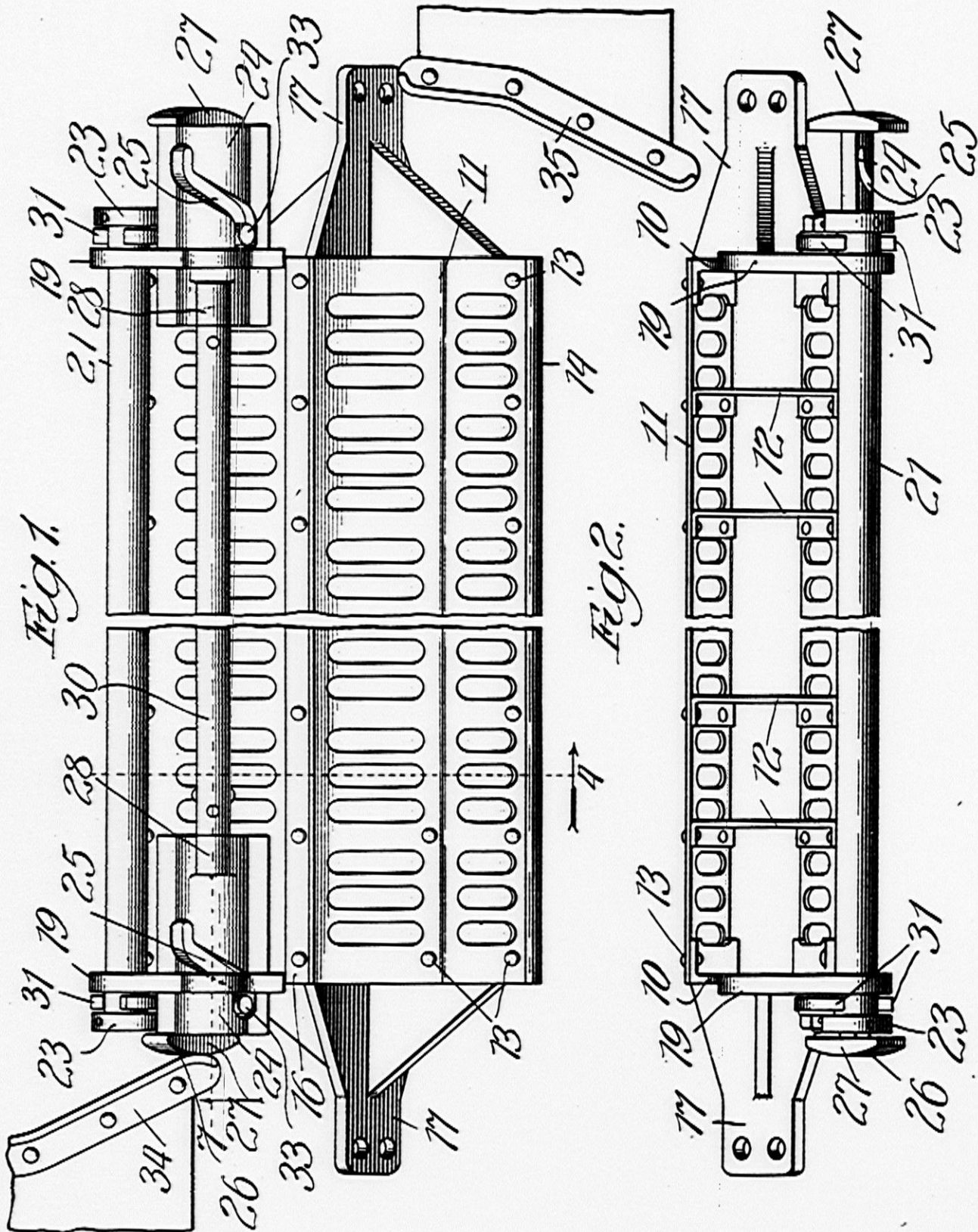
BOTTLE RACK.

APPLICATION FILED OCT. 5, 1911.

1,012,843.

Patented Dec. 26, 1911.

4 SHEETS—SHEET 1.



Witnesses:
Edw. J. Gaylord.
Chas. H. Buell.

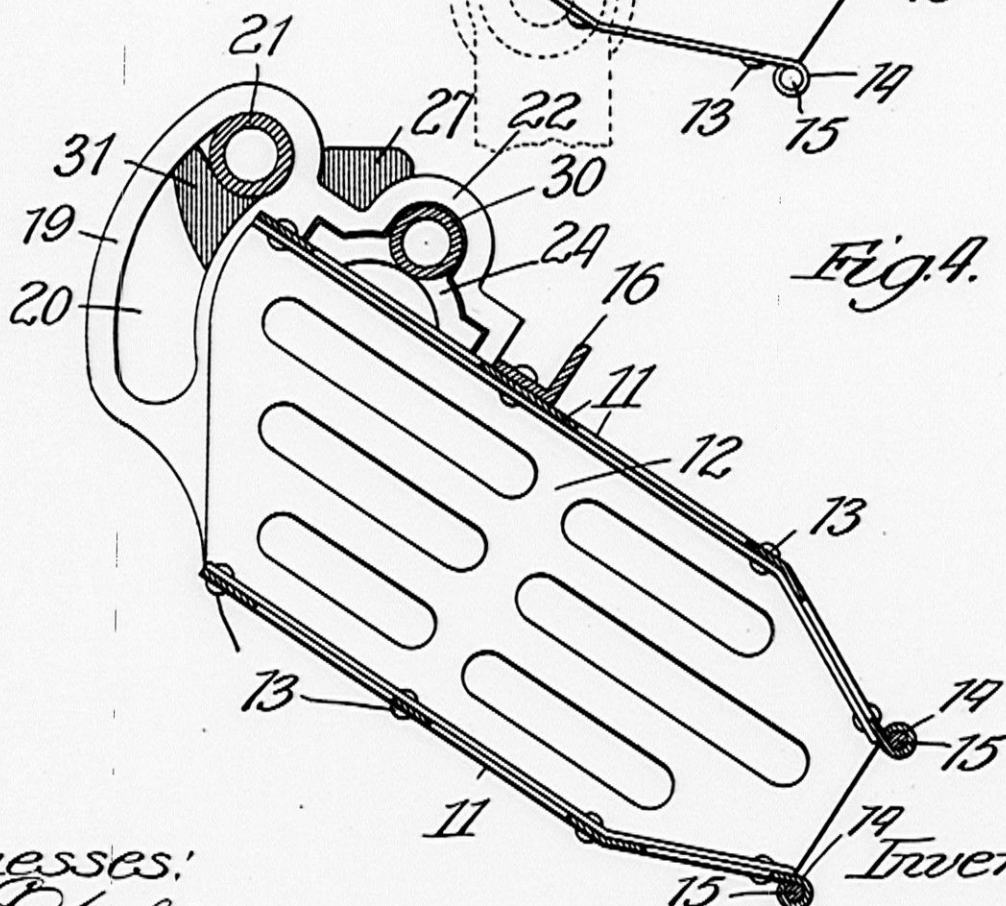
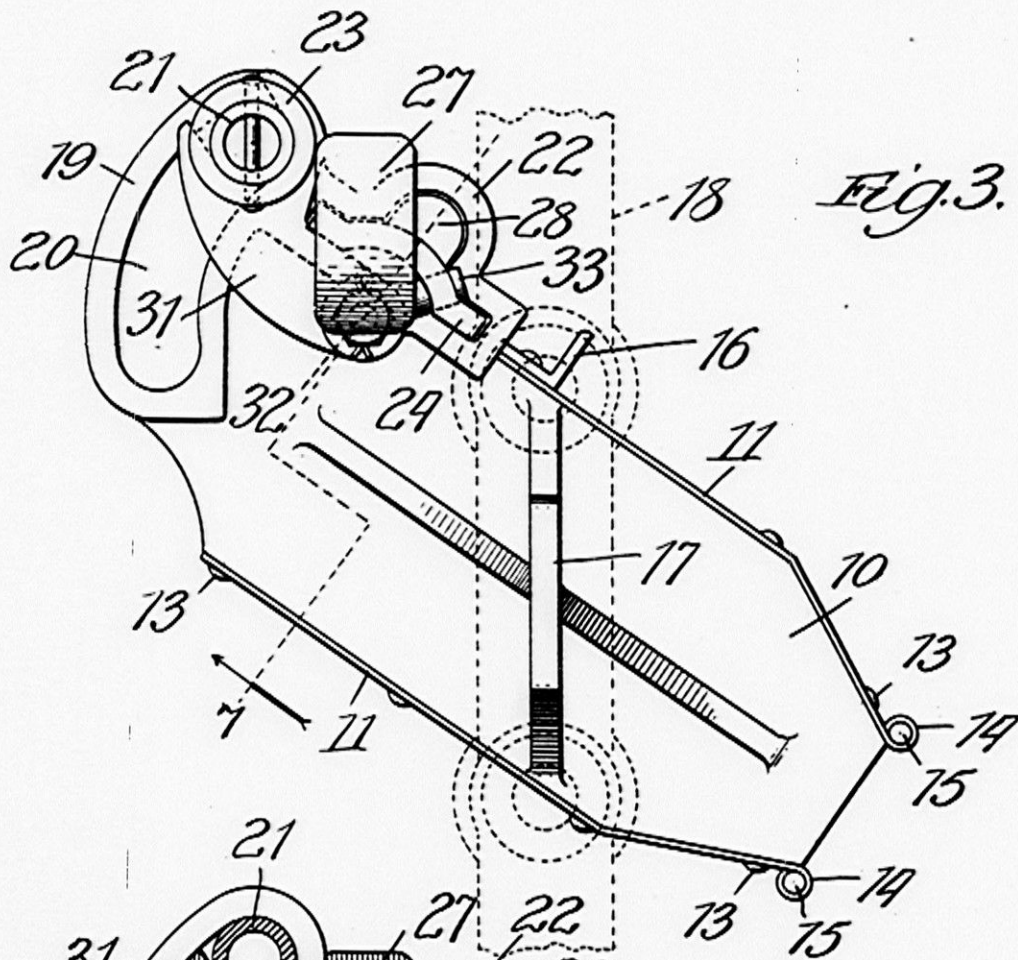
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S. L. GOLDMAN.
BOTTLE RACK.
APPLICATION FILED OCT. 5, 1911.

1,012,843.

Patented Dec. 26, 1911.

4 SHEETS—SHEET 2.



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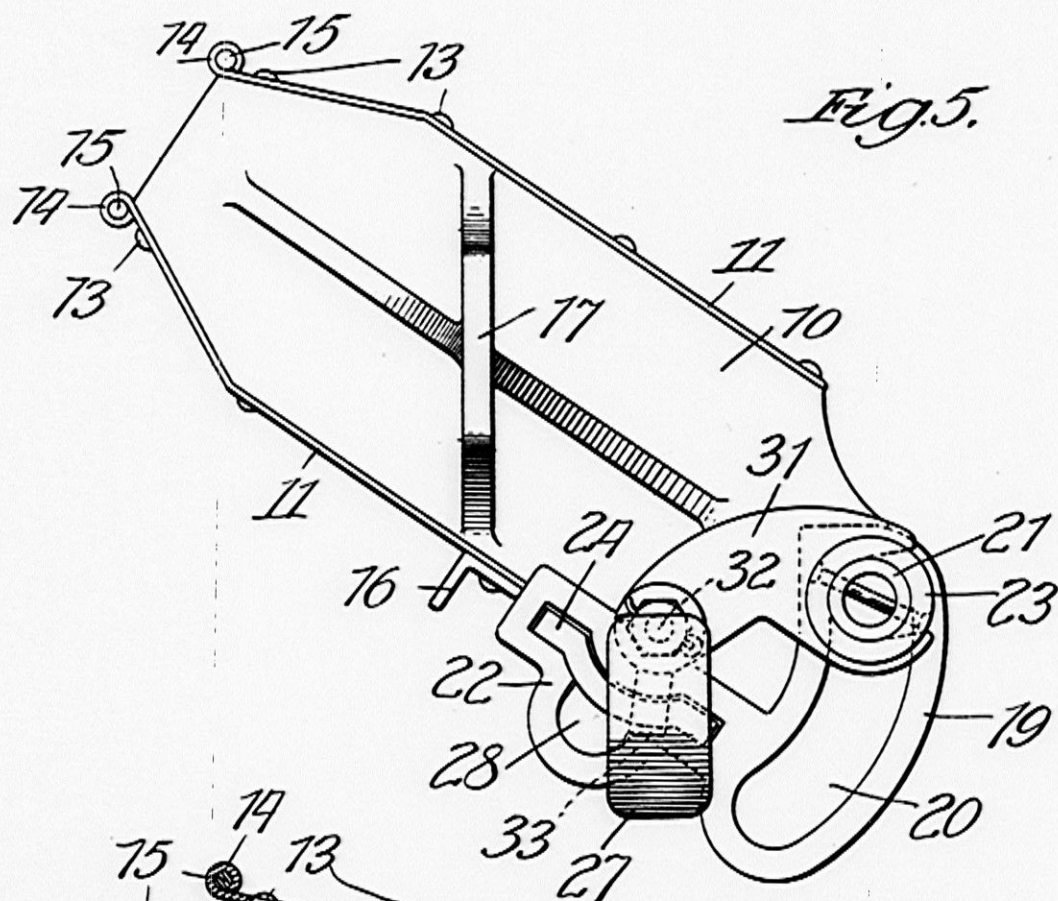


Fig. 5.

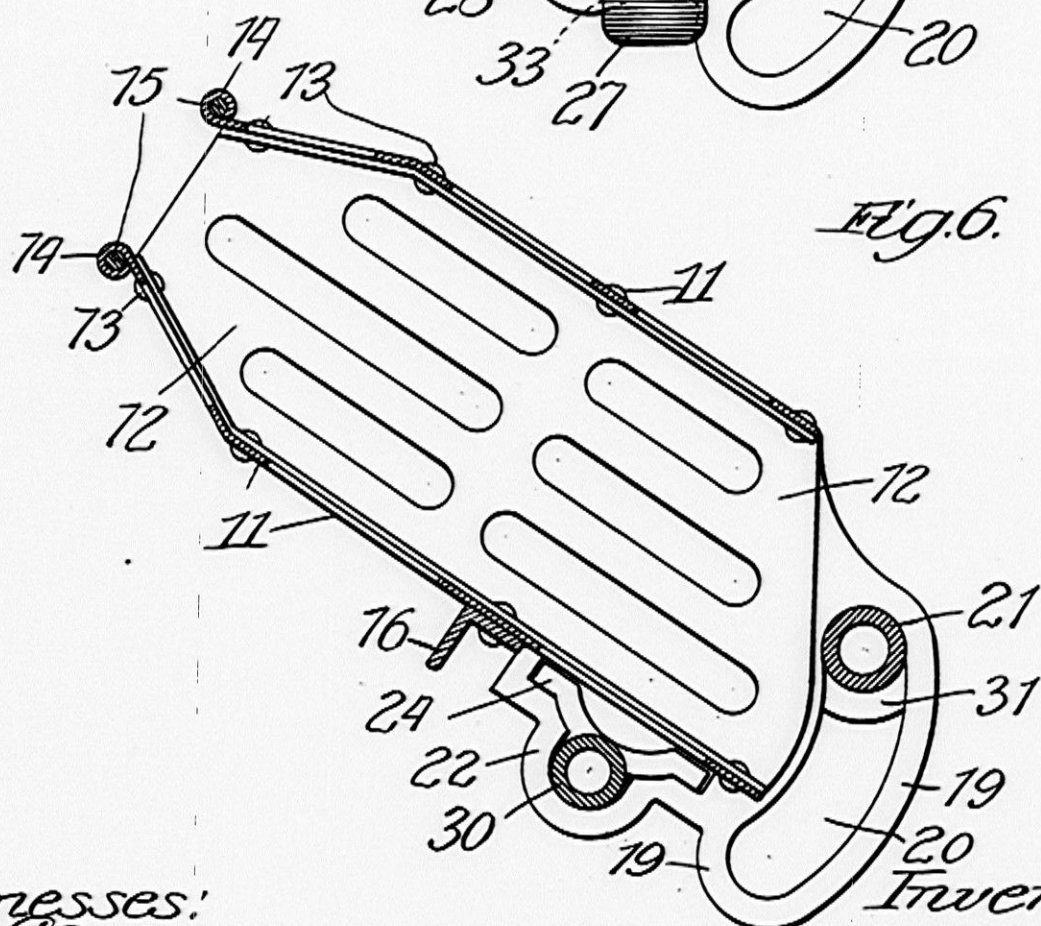


Fig. 6.

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BOTTLE RACK.
APPLICATION FILED OCT. 5, 1911.

1,012,843.

Patented Dec. 26, 1911.

4 SHEETS—SHEET 4.

Fig. 7.

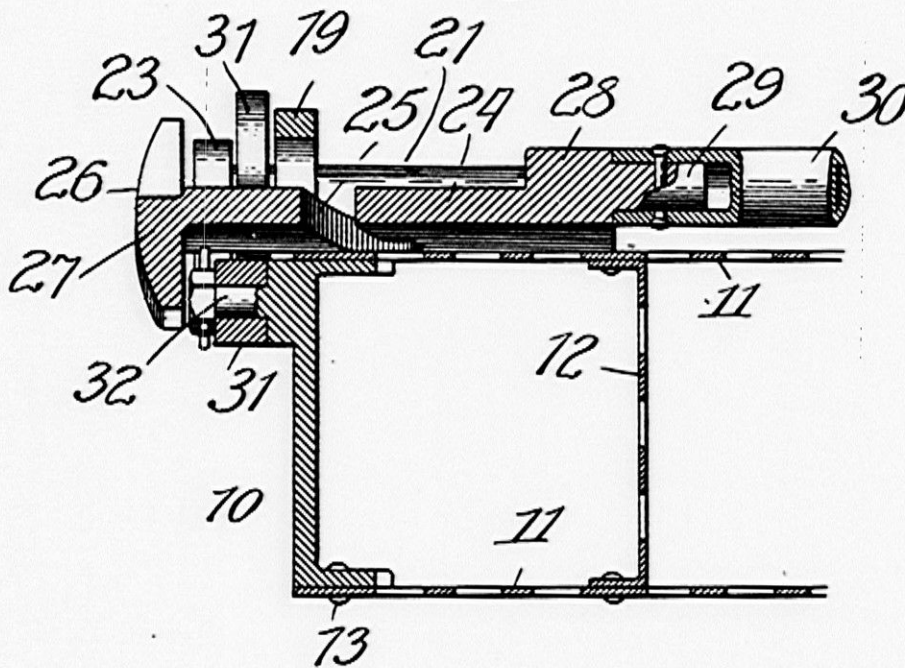


Fig. 8.

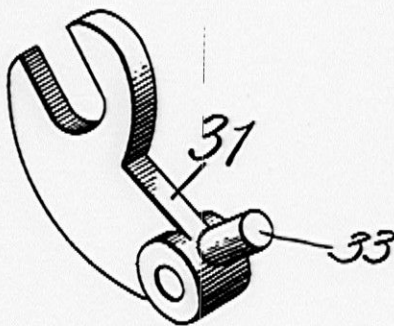
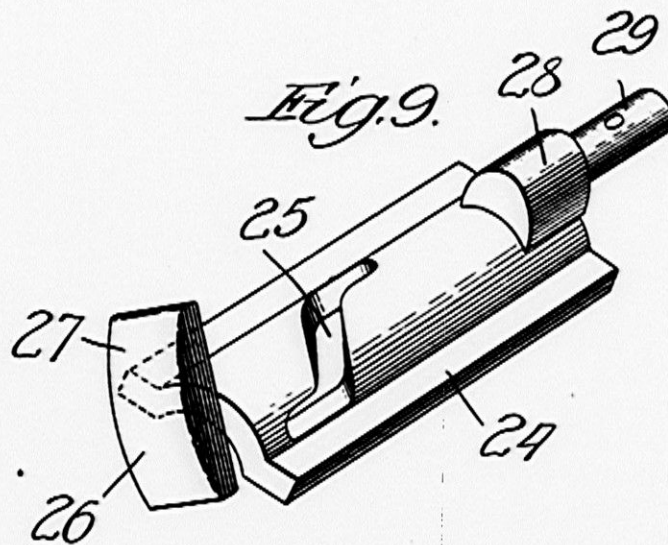


Fig. 9.



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UNITED STATES PATENT OFFICE.

SIGMUND L. GOLDMAN, OF CHICAGO, ILLINOIS.

93

BOTTLE-RACK.

1,012,843.

Specification of Letters Patent.

Patented Dec. 26, 1911.

Application filed October 5, 1911. Serial No. 653,073.

To all whom it may concern:

Be it known that I, SIGMUND L. GOLDMAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Bottle-Racks, of which the following is a specification.

The present invention relates to an improvement in racks for receiving bottles and carrying them through a washing or soaking machine, of the type of the machine exemplified in Letters Patent No. 920,564, granted to me May 4, 1909, and automatically discharging them from the machine after undergoing its cleansing operation.

More particularly, my present invention is designed as an improvement upon the construction of the rack of my Patent No. 966,008, dated August 2, 1910; my primary object being to provide for automatically operating the carrier-gate, to close the rack for confining the bottles while traveling through the machine to the point of their discharge and to open it for the discharge at that point of the bottles, by durable and positively-acting means, thereby to avoid the use of spring-mechanism for controlling the gate, which tends to get out of order and is insufficiently reliable in operation.

In the accompanying drawings, Figure 1 is a broken view in elevation of my improved rack, showing, in a diagrammatic way, cams interposed in the paths of means at opposite ends of the gate for opening the latter in one position of the rack in traveling through the cleansing machine, and thereafter closing it; Fig. 2 is a plan view of the rack; Fig. 3 is an end view of the rack, showing the angle of inclination at which it is supported on a pair of endless carrier-chains of which one is illustrated by dotted representation, and also showing the direction in which it extends when at one side of the machine; Fig. 4 is a section on line 4, Fig. 1; Fig. 5 is a view of the rack like that presented in Fig. 3, but showing it extending in the reverse direction, or that in which it extends when on the opposite side of the machine; Fig. 6 is a longitudinal vertical section through the rack as represented in Fig. 5; Fig. 7 is a broken section on line 7, Fig. 3; Fig. 8 is a perspective view of one of the two similar levers fulcrumed on opposite ends of the gate-forming tubular bar for carrying the cam-engaging fingers, and Fig. 9 is a similar view

of one of the two similar connected gate-locking and operating slotted cam-heads provided on the rack to work upon one face thereof near its opposite ends.

The preferred general construction of the body of the rack is the same as that set forth in said former Patent No. 966,008, comprising the two similar tapered end-heads 10, 10 and perforate sides 11, 11 forming the open base of the rack, with perforated partitions 12 at intervals between the sides, to which they are shown to be fastened by rivets at 13. At the open base of the rack the edges of the sides 11 are tubularly beaded, as shown at 14, with rods 15 confined in the beads for reinforcement; and a reinforcing angle-bar 16 is riveted to the face of one side to extend across it for a similar purpose. Centrally from the outer faces of the opposite heads 10 project reinforced perforated ears 17 adapted to be riveted to the endless chains forming the vertically-traveling conveyer 18 of the machine, substantially as shown in said Patent No. 920,564. Each head 10 is provided on its wider end, preferably as an integral part thereof, with a bracket 19, forming an arc-shaped guiding-loop 20 at that end of the rack for the gate 21 and an arched guiding-loop 22 on the edge of the head for a cam-slotted head 24, hereinafter described. The gate 21 is shown as a cylindrical tubular bar projecting at its ends through the guides 20, which support it and in which it is confined against longitudinal shifting by collars 23 secured about its projecting ends. The cam-slot 25 is alike in each head 24, being formed with an arc-shaped central section and straight end-sections, as most clearly shown in Figs. 1 and 9; and each cam-head has formed on its outer end a shoe 27 having a convex face 26, and centrally on its inner end a boss 28 with a stud 29 projecting from it. The two studs 29 enter and are rigidly fastened in the opposite ends of a tube 30 to unite the two cam-heads 24 and cause them to move together. Each end of the gate-forming bar 21 is embraced, between the collar 23 thereon and the outer face of the adjacent head 10, by the forked end of a curved lever 31 fulcrumed at its opposite end on a stud 32 projecting from that face of the rack-head and having a finger 33 projecting at a suitable angle from its fulcrumed end to project through and work in a cam-slot 25.

In the use of my improved rack it forms, in the manner shown and described in said Patent No. 920,564, one of an endless series of racks extending between chains forming a vertically-traveling endless conveyer, to which they are fastened at the ears 17, in the present instance to alternate links of each chain. Into the path of the shoes 27, or projections on the cam-heads, at the rear or filling side of the machine projects a cam 34 (Fig. 1); and a similar cam 35, but inverted relative to the cam 34, projects, at the same side of the machine, into the path of the opposite shoes 27. A third cam (not shown but like the cam 34) projects into the path of the shoes into which the cam 34 projects, at the discharging side of the machine. When, in the travel of a rack, the shoe on one end thereof encounters the cam 34, the latter bears against that shoe to force the cam-heads 24 in the direction to cause the cam-slots 25 by their action against the fingers 33, to shift the latter from corresponding straight ends of the cam-slots to the opposite straight ends thereof, thereby turning the levers 31 on their fulcrums to throw the gate 21 to its rack-opening position represented in the drawing. This occurs on the rear or filling side of the machine; and while the rack is thus open, an attendant fills its pockets, formed by the partitions 12, each with a bottle introduced therein neck foremost. Upon leaving such filling position, the shoe 27 on the opposite end of the rack encounters the cam 35, which forces the cam-heads in the direction opposite that described, to swing the gate back to its normal closing position of extending centrally along the open mouth of the rack. In undergoing the operation for opening the gate to fill a rack, the latter would extend as represented in Figs. 3 and 4. The continued travel of the rack, after this closure of its gate, brings it, to extend as represented in Figs. 4 and 5, to the discharge-side of the machine, where the shoe on its end previously acted on by the cam 34 encounters the third cam, referred to, which forces the cam-heads 27 again in the direction to throw the gate to its rack-opening position and permit the automatic discharge of the cleansed bottles, which slide out of the opened rack-mouth. The rack remains thus open until, in its continued travel, it arrives on the filling side of the machine and the cam 34 is again encountered by the respective shoe to shift the cam-heads 27 in the direction to again effect throwing of the gate to its open position for the filling purpose. The arched form of the loops 22 expands them where the projecting ends of the fingers 33 traverse them to permit the fingers to pass.

As will be observed, the straight ends of the cam-slots 25, in which the fingers 33 are contained in the opened or closed condition of the gate, afford seats for the fingers, requiring considerable force to dislodge them into the inclined gate-throwing sections of the slots, whereby they serve to retain the gate in its thrown position against any tendency of the fingers to become dislodged from their seats and thus accidentally and improperly throw the gate.

What I claim as new and desire to secure by Letters Patent is—

1. In combination with a bottle-rack body, a gate supported near its ends to swing at right-angles to its support, and cam-heads connected with said gate and supported to be shifted lengthwise thereof for swinging it.

2. In combination with a bottle-rack body, a swinging gate for the mouth of said body, and positively-operating means for throwing the gate to open and close said mouth, comprising connected, longitudinally-shifting heads containing cam-slots and means connecting the gate with said slots.

3. In combination with a bottle-rack body, a gate for the mouth of said body, and means for throwing the gate to open and close said mouth, comprising connected, longitudinally-shifting heads containing cam-slots, levers on the rack-heads carrying said gate, and fingers extending from the levers into engagement with said cam-slots.

4. In combination with a bottle-rack body, a gate for the mouth of said body, and means for throwing the gate to open and close said mouth, comprising connected, longitudinally-shifting heads, cam-slots in said heads having intermediate curved sections and straight end-sections, levers fulcrumed on the rack-heads and carrying on corresponding ends the gate, and fingers extending from the levers into the cam-slots.

5. In combination with a bottle-rack body, a gate-bar for the mouth of said body, and means for throwing the gate to open and close it, comprising brackets on the rack-heads containing arc-shaped loops in which the gate-bar is movably confined near its opposite ends, and head-guiding loops, connected heads movably supported in said guiding-loops and having shoes projecting from their outer ends, cam-slots in the heads having intermediate curved sections and straight end-sections, levers fulcrumed on the rack-heads to carry the gate-bar, and fingers extending from the levers into the cam-slots.

SIGMUND L. GOLDMAN.

In the presence of—

R. A. SCHAEFER,

JOHN WILSON.

W. WACHS & R. L. GALLUP.

BOTTLE CONVEYER.

APPLICATION FILED MAY 12, 1916.

Patented Jan. 23, 1917.

3 SHEETS—SHEET 1.

1,213,308.

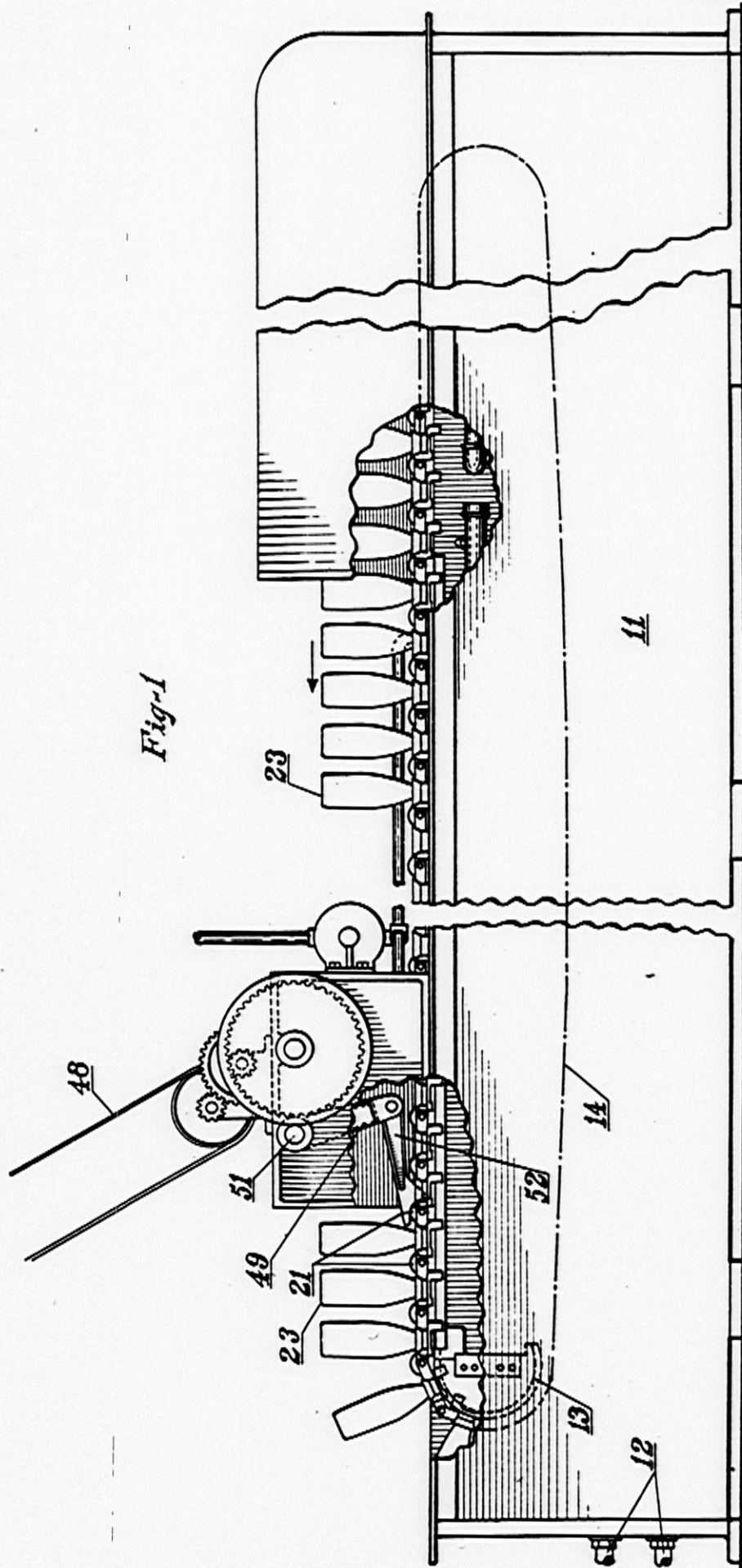


Fig-1

Inventors:
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Rockwell L. Gallup.
by Ford & Wilson
Atlys.

W. WACHS & R. L. GALLUP.

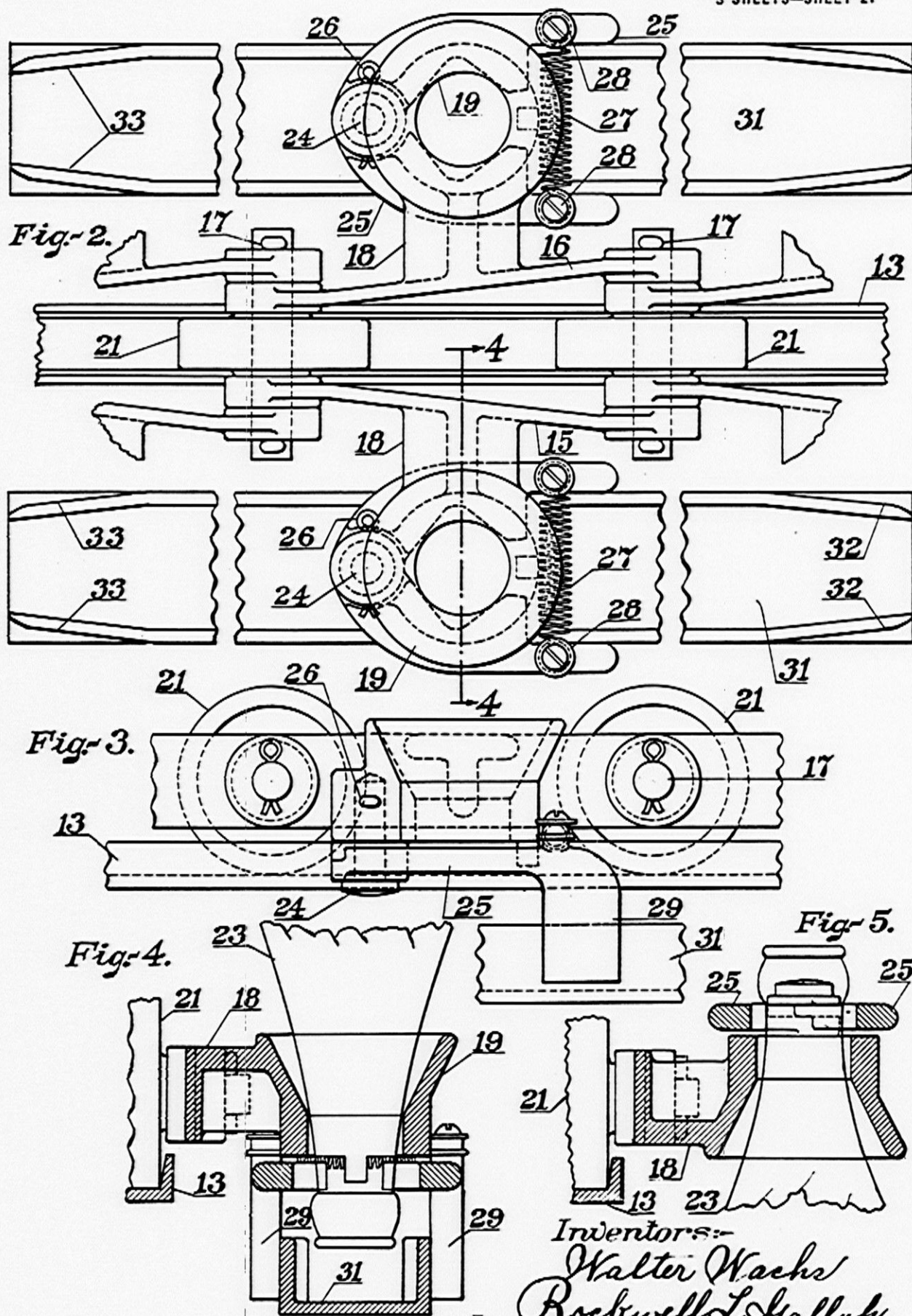
BOTTLE CONVEYER.

APPLICATION FILED MAY 12, 1916.

Patented Jan. 23, 1917.

3 SHEETS—SHEET 2.

1,213,308.



Inventors:-

Walter Wachs
 Rockwell L. Gallup

by

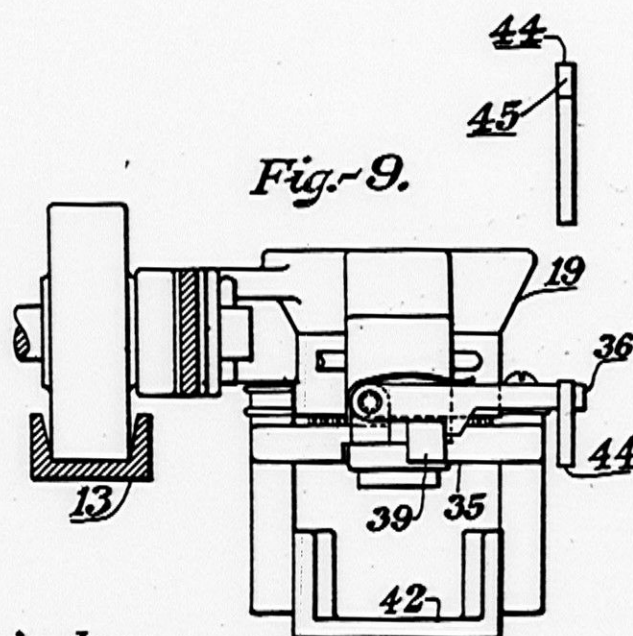
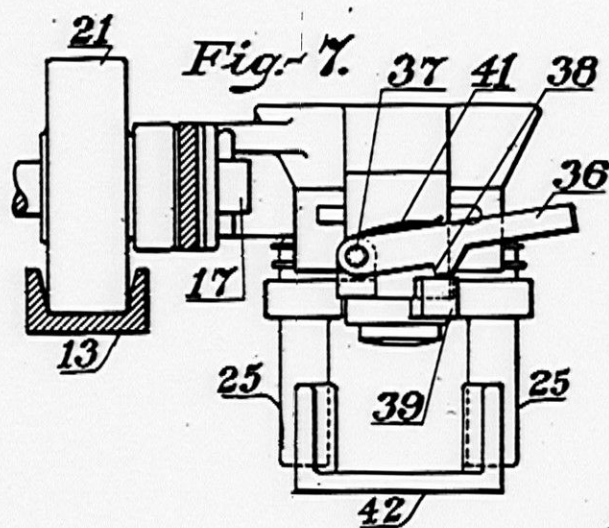
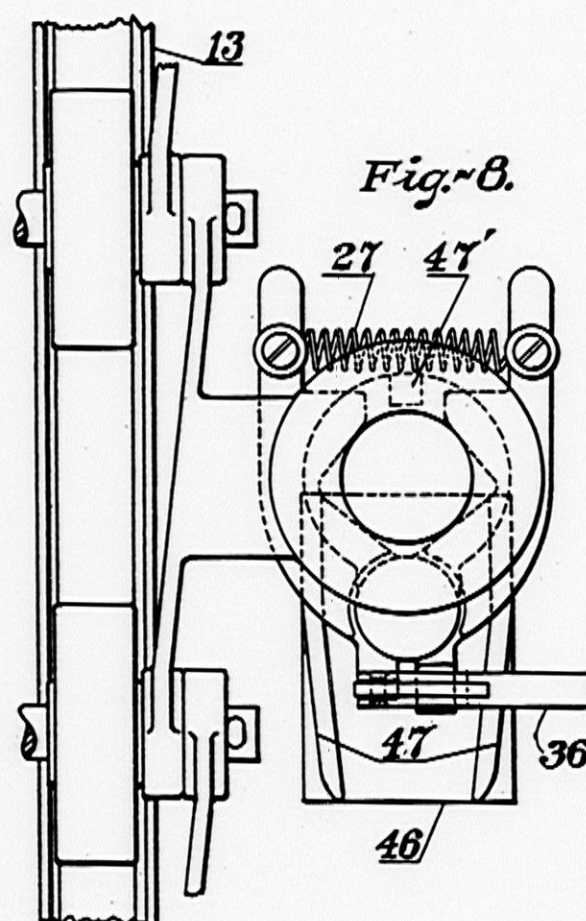
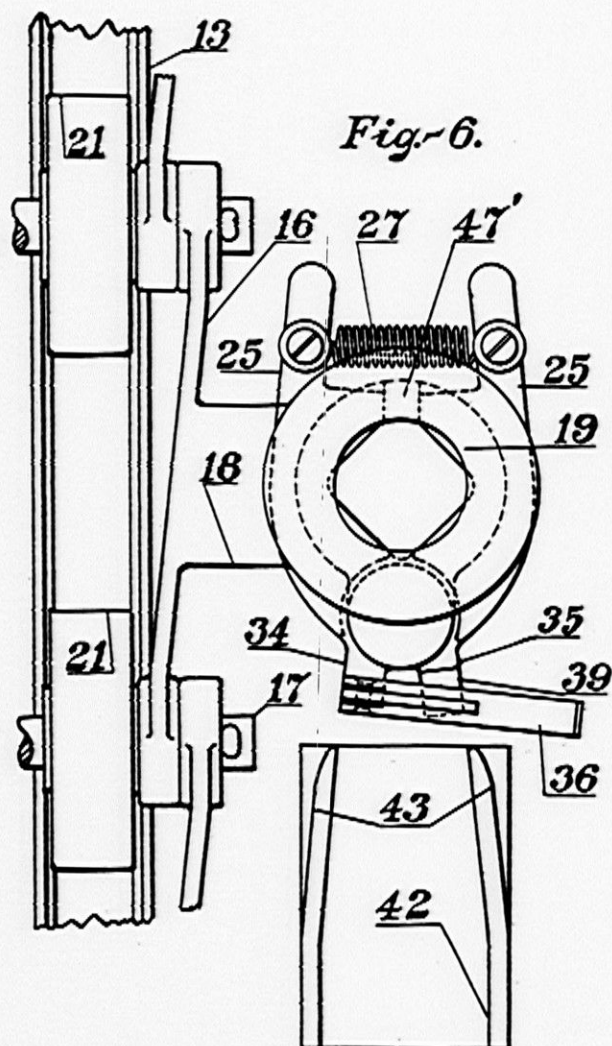
Pond & Wilson

Atty's.

W. WACHS & R. L. GALLUP.
BOTTLE CONVEYER.
APPLICATION FILED MAY 12, 1916.

1,213,308.

Patented Jan. 23, 1917.
3 SHEETS—SHEET 3.



Inventors—
Walter Wachs
by Rockwell L. Gallup
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UNITED STATES PATENT OFFICE.

WALTER WACHS AND ROCKWELL L. GALLUP, OF CHICAGO, ILLINOIS.

BOTTLE-CONVEYER.

101

1,213,308.

Specification of Letters Patent.

Patented Jan. 23, 1917.

Original application filed September 1, 1915, Serial No. 48,423. Divided and this application filed May 12, 1916. Serial No. 96,974.

To all whom it may concern:

Be it known that we, WALTER WACHS and ROCKWELL L. GALLUP, both citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bottle-Conveyers, of which the following is a specification.

This invention relates in general to bottle-handling mechanisms and has more particular reference to a conveyer by means of which bottles are conveyed through a bottle-washing or other similar machine, the present application constituting a division of our application, Serial No. 48,423, filed September 1, 1915, for bottle washing machines.

One of the primary objects of our present invention is to provide a bottle-conveyer which, without the use of bottle crates or cases, will be adapted to carry a plurality of rows of bottles simultaneously through a machine.

Another object of the invention is to provide a conveyer which will be adapted to receive the bottles in inverted position and which, as the conveyer travels along, will automatically embrace the necks of the bottles on the conveyer and prevent their withdrawal or disengagement from the conveyer so that they will be carried suspended in upright position when passing through the soaking tank in the lower part of the bottle-washing machine.

Still another object is to provide mechanism for automatically opening and closing the bottle-clamping means at predetermined positions of the conveyer during its travel so that the bottles can be freely removed from and replaced on the conveyer during a portion of the travel of the conveyer but will be securely clamped and locked to the conveyer during another portion of its travel.

Still another object is to provide a conveyer which will be simple in construction but strong and durable in operation, and which can be manufactured at reasonable cost and readily assembled in a machine.

For the purpose of facilitating an understanding of our invention we have illustrated on the accompanying drawings practical and preferred embodiments thereof but it will be readily appreciated, as the invention is better understood, that the structural

details are capable of considerable modification and variation and that the invention is not circumscribed by the details of construction, which are shown herein merely for purposes of illustration.

Referring to the drawings—Figure 1 is a side elevation of a bottle-washing machine embodying our invention; Fig. 2 is a fragmentary plan view of our novel conveyer; Fig. 3 is a side elevation of the construction shown in Fig. 2; Fig. 4 is a transverse sectional view taken on the line 4—4 of Fig. 2; Fig. 5 is a similar view showing the position of the parts when the bottles are suspended in upright position on the lower lap of the conveyer; Fig. 6 is a fragmentary plan view of another form of bottle holder; Fig. 7 is an end elevation of the construction shown in Fig. 6; Fig. 8 is a view similar to Fig. 6 but showing the clamping jaws in open position; and Fig. 9 is an elevation of the parts shown in Fig. 8.

In Fig. 1 we have illustrated in a general way a bottle-washing machine in which our conveyer is adapted to be employed. This machine comprises a long narrow tank 11, preferably made of sheet metal, supported upon a suitable frame constructed of angle iron or other material possessing sufficient strength and rigidity. This tank is adapted to contain a soaking solution, preferably caustic soda, which is maintained at the requisite temperature by longitudinally disposed heating coils (not shown), the inlet and outlet ends of these coils being designated by reference character 12. Our improved conveyer, which is in the general form of an endless chain, is adapted to travel upon a suitable track, or tracks, 13 so that the upper lap of the conveyer travels substantially flush with the top of the tank while the lower lap travels upon a track 14 within the tank so that the bottles are suspended in upright position in the soaking solution. These tracks 13 and 14 are preferably of channel-shaped construction, as shown in Figs. 2 to 9 inclusive.

The conveyer shown comprises a series of links consisting of side members 15 and 16 pivotally connected together by pins 17. Each side member is provided with an integral laterally extending arm 18 shaped at its outer end to provide a bottle-receiving socket 19. The chain is supported and guided during its travel by rollers 21

mounted upon the pins 17 between the side members and adapted to travel in the channel-shaped tracks 13 and 14. My invention contemplates, however, variations in the form and arrangement of the links and also in the construction and arrangement of the tracks upon which the chain is carried. The bottles to be operated upon are introduced into the sockets 19 on the upper lap of the conveyer in inverted position, one of the bottles being shown positioned in a socket in Fig. 4. As the bottle passes around the end of the conveyer it is inverted so that it is in upright position on the lower lap of the conveyer, and for the purpose of preventing the bottles from dropping out of the sockets and for holding them in suspended upright position during their travel through the soaking solution we have provided bottle-holding means which will now be described. Since each link 18 is equipped with a bottle socket and a bottle holding means, and since all the sockets and bottle holding devices are substantially alike, a detailed description of one of them will be sufficient for an understanding of this invention. Referring now to Figs. 1 to 5 inclusive, it will be observed that just beneath each socket there is pivotally mounted upon a pivot pin 24 a pair of clamping or holding jaws 25. The pin 24 is inserted through an opening in the casting which forms the bottle socket and is held in position therein by a cotter pin 26 or other suitable device. The jaws are shaped as shown in Fig. 2 so that when opened they do not extend within the inner perimeter of the bottle socket, but when moved to closed position, as shown in Figs. 5 and 6, they embrace the neck of the bottle 23 just below the head thereof and thereby prevent the bottle from being withdrawn from the socket. The jaws are normally held in closed position by a coiled contraction spring 27 attached at its ends to the jaws 25 by pins or screws 28. It will thus be understood that when the jaws are held in closed position by the spring a bottle in the socket will be embraced by the jaws and held in the socket so that it is suspended in upright position from the conveyer during its travel through the soaking solution in the tank 11.

For the purpose of maintaining the bottle-holding jaws in open position during a portion of the travel of the conveyer upon its upper lap so that clean bottles may be removed and dirty bottles may be placed in the sockets, we have provided mechanism for retaining the jaws in open position during the requisite length of their travel. With this end in view each jaw is provided with a downwardly projecting finger 29 and beneath the path of the sockets there are mounted suitable jaw-opening devices 31 of substantially channel-shaped construction,

as shown in Fig. 2. These devices 31 are of the requisite length to maintain the holding jaws in open position for the required length of time and their side walls converge at each end to provide inclined or cam faces 32 which pass between the fingers 29 as the carrier travels toward the left, viewing Fig. 2. It will be obvious that as the conveyer travels along the jaws will be gradually opened by engagement of the fingers 29 with the cam surfaces 32 and will be retained in open position to permit withdrawal and reinsertion of bottles until they travel off from the opening devices. In order to prevent the jaws from closing too abruptly the opposite ends of the devices 31 are also provided with inclined surfaces 33, as shown in Fig. 2, which permit the jaws to close gradually under the influence of the springs 27. In Fig. 2 the clamping jaws are shown in open position; in Fig. 4 the jaws are shown in the same position with a bottle positioned in the socket, and in Fig. 5 the jaws are shown in closed position to hold a bottle on the lower lap of the conveyer in upright position in the socket.

In the construction just described the opening devices 31 are relied upon to maintain the holding jaws in open position while the sockets are traveling a considerable distance. Engagement of the fingers 29, however, with the sides of the opening devices results in a considerable amount of friction, and for the purpose of relieving this friction we have provided an alternative construction, shown in Figs. 6 to 9 inclusive, in which the holding jaws are positively locked in open position instead of being held open by the devices 31. The bottle sockets and the clamping jaws themselves are substantially the same in this construction as that previously described but the forward end of each jaw beyond the pivot pin is provided with an extension, one of which is indicated by reference character 34 and the other by 35. Upon the extension 34 a latch 36 is pivotally mounted upon a pin 37, this latch being equipped on its lower edge intermediate its ends with a shoulder 38 adapted to engage, when the jaws are in open position, with an opposed shoulder 39 on the extension 35 to thereby lock the jaws in open position, as shown in Fig. 8. A spring 41 overlying the latch normally urges the latch into locking position.

The jaws, as has been previously explained, are closed during the greater portion of their travel, as shown in Figs. 6 and 7, and for the purpose of opening them at the requisite time an opening device 42 having inclined upstanding walls 43 similar to the inclined surfaces 32 previously described is employed. When the fingers 29 slide along the surfaces 43 the jaws are moved to open position so that the shoulder 38 of the

latch drops down back of the shoulder 39 and thereby locks the jaws 8 and 9. The opening devices 42 are only of sufficient length to open the jaws and permit them to be locked by the latch 36 which is relied upon to hold them in open position until the latch is subsequently released by mechanism which will now be described.

In Fig. 6 the parts are shown in the position which they assume when a bottle is clamped in the socket and, as the socket travels along, the fingers 29 engage with the inclined surfaces 43 and the jaws are moved to open position and locked in open position as shown in Fig. 8. The release of the latch to permit closing of the jaws is effected by a stationary device 44 provided with an inclined end 45 which is positioned in the path of travel of the projecting end of the latch 36, and when the outer end of the latch travels up the incline 45 the shoulder 38 is lifted from engagement with the shoulder 39, thereby permitting the jaws to be closed by the spring 27. For the purpose of preventing the jaws from snapping together too quickly and causing injury to the bottle a device 46 similar in construction to the rear end of the device 31 is employed, and this device is so positioned with respect to the latch-releasing device 44 that when the latch is released the jaws are momentarily held against closing movement by the inclined surfaces 47. As the socket travels along, however, these surfaces permit the jaws to gradually close and embrace the bottle neck without liability of injury to the bottle. In order to insure that the jaws will properly center when in closed position we prefer to provide a centrally disposed upwardly extending abutment 47' which will limit the closing movements of both jaws.

It will be manifest that the latch 36 performs the function of the elongated parallel portions of the device 31, but by locking the jaws in open position the prolonged friction of the fingers 39 against the sides of the opening devices 31 is eliminated.

While our improved conveyer and bottle-holder may be employed in machines of various types and may be operated by any suitable mechanism we have, in the present instance, shown for purposes of illustration so much of the driving mechanism as is necessary for an understanding of the manner in which the conveyer is actuated. Referring now to Fig. 1, it will be observed that power is applied to the machine by a belt 48 driven in any suitable manner and that the conveyer is intermittently propelled by a bell crank lever 49 fulcrumed at 51, one arm of the lever (not shown) being adapted to be oscillated by a revolving crank connected with the gear train, illustrated, and the other arm being equipped with a pawl 52 shaped to engage the rollers 21 in

succession. As the bell crank lever is oscillated the pawl 52 is first moved to the right, viewing Fig. 1, to engage behind one of the rollers 21 so that upon its reverse movement to the left an intermittent movement is imparted to the conveyer. Since the particular mechanism by which this movement of the bell crank lever is effected is not material to our present invention further illustration and description of this mechanism is not believed to be necessary.

It will be understood from the foregoing that we have provided a conveyer which receives and carries the bottles individually, permits them to be removed and replaced on the upper lap of the conveyer and securely clamps them to the conveyer so that they are carried in suspended upright position on the lower lap of the conveyer through the soaking solution in the machine. The opening and closing of the bottle holding clamps is entirely automatic in operation, and while they securely hold the bottles in position all danger of injury to the bottles resulting from the operation of the clamps is obviated.

Since our invention resides more particularly in the bottle holding mechanism which is adapted for inclusion in conveyer chains of various constructions it should be obvious that our invention is not restricted to the form of chain herein shown and described and which was selected for purposes of illustration merely.

We claim:

1. A bottle conveyer, comprising a bottle-holder consisting of a socket, a pair of clamping jaws mounted adjacent to said socket, a spring for normally closing said jaws about the neck of a bottle in position in said socket, means for opening said jaws against the force of said spring, and means for preventing a rapid closing movement of said jaws such as would injure a bottle in said socket.

2. A bottle conveyer, comprising a bottle-holder consisting of a socket, a pair of pivoted bottle-holding jaws mounted at one end of said socket, a spring for normally holding said jaws in closed position, means for opening said jaws against the action of said spring, and means for locking said jaws in open position.

3. The combination of a conveyer comprising a series of pivotally connected links, each link being provided with bottle-receiving means, a bottle-holder mounted on each of said means, comprising a pair of pivoted jaws, means for advancing said conveyer, and means for opening said jaws, maintaining them in open position for a predetermined period and subsequently closing said jaws gradually so as to obviate injury to a bottle in said socket.

4. The combination of a conveyer pro-

- vided with bottle-supporting elements, a pair of jaws pivoted on each of said elements, a spring for closing each pair of jaws to hold a bottle therein, stationary means 5 for opening said jaws at a predetermined point in the travel of the conveyer and means for maintaining said jaws in open position during a predetermined travel of said conveyer.
- 10 5. The combination of a conveyer, bottle holders mounted thereon, each comprising a pair of pivotally mounted jaws, means for normally holding said jaws in closed position, mechanism for opening said jaws at a 15 predetermined point in the travel of the conveyer, a latch for locking said jaws in open position, and means for automatically releasing said latch.
- 20 6. The combination of an endless conveyer, bottle sockets disposed side by side on said conveyer and carried thereby, a pair of clamping jaws pivotally mounted adjacent to each socket, springs for normally closing said jaws, fingers projecting from 25 said jaws, and stationary cam-shaped devices mounted in the path of travel of said fingers whereby the fingers are forced apart against the action of said springs to thereby open said jaws.
- 30 7. The combination of an endless conveyer provided with laterally projecting arms, a bottle socket carried by each arm, a

pair of jaws pivoted to each socket, a spring normally tending to close said jaws, a stationary cam device for opening the jaws 35 against the action of said spring, a latch mounted to lock said jaws in open position, and a stationary device for releasing said latch at a predetermined point in the travel of the conveyer to thereby permit the jaws 40 to close under the action of said springs.

8. The combination of an endless conveyer, a bottle socket mounted thereon, a pair of bottle clamping jaws mounted adjacent to said socket, means for positively 45 opening said jaws, and means for positively locking said jaws in open position.

9. The combination of a conveyer, bottle clamping and holding means mounted thereon, a spring normally urging said holding 50 means into closed position, mechanism for opening said means against the force of said spring, and a latch for holding said means in open position.

10. The combination of a conveyer, a plurality of bottle holding clamps carried thereby, stationary means for positively opening 55 said clamps in succession, means for positively locking said clamps in open position, and stationary means for releasing said 60 locks in succession.

WALTER WACHS.
ROCKWELL L. GALLUP.

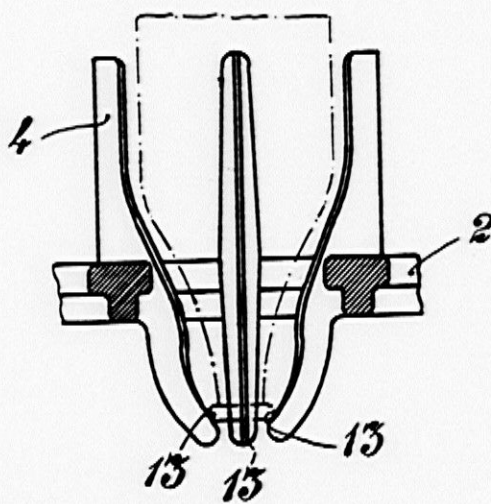
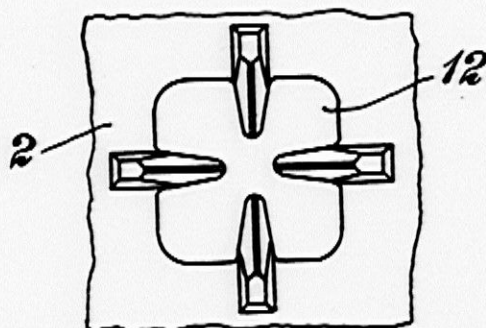
March 16, 1926.

1,577,092

A. ANDERSSON

BOTTLE HOLDER FOR BOTTLE WASHING MACHINES

Filed Feb. 13, 1925

Fig 1*Fig 2**Inventor:**Axel Andersson**By* *Linus Paulsen*
Attorney

UNITED STATES PATENT OFFICE.

AXEL ANDERSSON, OF LUND, SWEDEN.

BOTTLE HOLDER FOR BOTTLE-WASHING MACHINES.

Application filed February 13, 1925. Serial No. 8,974.

To all whom it may concern:

Be it known that I, AXEL ANDERSSON, a citizen of Sweden, residing at Lund, Sweden, have invented a certain new and useful
5 Bottle Holder for Bottle-Washing Machines, of which the following is a specification, reference being had to the accompanying drawing.

10 The invention relates to bottle holders for bottle-washing machines of the kind in which the bottles are disposed in inverted position on a horizontal table, revolving step by step.

15 In bottle-washing machines of this kind the cleansing of the interior of the bottles is accomplished by fluids which are supplied, under pressure, from fluid conduits, provided with jet holes or nozzles which are arranged in such a manner that they, when
20 the bottle carrying table is at a stand-still, are in line with the mouth of the bottles.

In bottle holders of the kind hitherto known the bottles are supported either at the bottle-neck or at the bottle-body, which
25 constructions have the disadvantage that bottles of different dimensions extend differently downwards, so that their mouths may contact with the nozzles on the fluid conduits below them, thereby causing their
30 destruction; or the bottles may on the other hand occupy a position so far away from the nozzles of the fluid conduit that the fluid stream becomes ineffective.

According to my invention the bottle
35 holders are constructed so as to cause the bottle-mouths to directly rest upon the holder whereby a substantially uniform distance of the mouths of bottles of varying dimensions from the nozzles of the fluid conduit is
40 always secured. These new bottle holders consist of a plurality of arms provided at their lower free ends with hook shaped projections, so that the bottle-mouths are left entirely free for the fluid streams directed
45 upon them, excepting at the three or four points at which the bottles are supported.

In the accompanying drawing, Figure 1 is a vertical sectional view of the bottle holder according to the invention. Figure
50 2 shows the same in a top plan view.

The bottle holder consists of a plurality (three or four) of substantially vertically arranged arms or guides 4, which at their

middle portion are fixed to or integral with the edges of an aperture 12 arranged in the revolving table 2. These arms are at their lower end bent inwards, so that they form hook shaped members, the upper sides of the lower portions of which are adapted to form resting means for the mouth of a bottle, as indicated with dotted lines in Fig. 1. This arrangement offers the advantage compared with other constructions, for example closed and cushioned supporting rings, that the mouths of the bottles and also the necks
55 of same may freely be subjected to the action of the cleansing fluid streams from underneath.

In practice these bottle holders have been found to be particularly effective, because
70 the bottles may on account of the play between the body of the bottle and the arms, see Fig. 1, be caused to oscillate or rotate by means of the fluid stream acting on the interior of the bottle, whereby the bottles
75 will be cleaned in an ideal manner. These oscillating or revolving movements of the bottle do not appreciably alter the position of the bottle-mouth, which is freely movable in a manner similar to a ball joint on
80 the hook shaped members 13 of the bottle holder, so that the fluid stream is always permitted to freely issue into the interior of the bottle at the same time thoroughly cleaning the whole inner and outer surface
85 of the bottle-mouth.

What I claim and desire to secure by Letters Patent is:—

1. The combination with a horizontally-disposed table having an aperture therein, of a skeleton bottle holder permanently attached to the table and consisting in its entirety of a plurality of substantially-vertical, stationary arms rigidly secured intermediate their ends to the edge faces of the aperture and extending through the latter above and below the table; said arms having their lower ends turned inward to conjointly form a support whereon the edge of the mouth of a bottle in inverted position in the holder may directly rest.
90 95 100

2. The combination with a horizontally-disposed table having an aperture therein, of a skeleton bottle holder permanently attached to the table and consisting in its entirety of a plurality of substantially-ver-
105

tical, stationary arms rigidly secured intermediate their ends to the edge faces of the aperture and extending through the latter above and below the table; said arms
5 having their lower ends turned inward to conjointly form a support whereon the edge of the mouth of a bottle in inverted posi-

tion in the holder may directly rest, the arms being spaced from one another an extent sufficient to enable a rocking movement of 10 the bottle therein.

In testimony whereof, I have signed my name to this specification.

AXEL ANDERSSON.

Sept. 29, 1931.

J. L. HEROLD ET AL

1,824,993

MEANS FOR WASHING BOTTLES

Filed Dec. 5, 1928

2 Sheets-Sheet 1

Fig. 1.

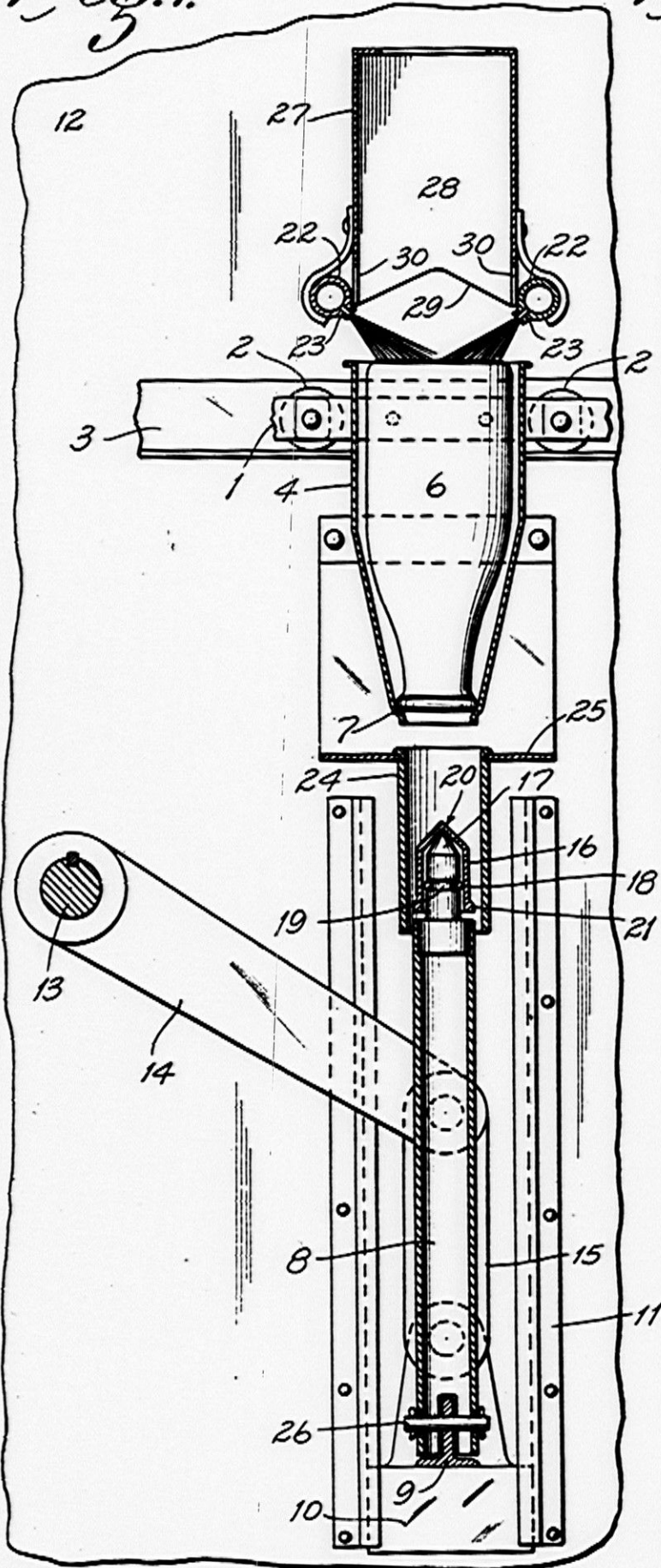
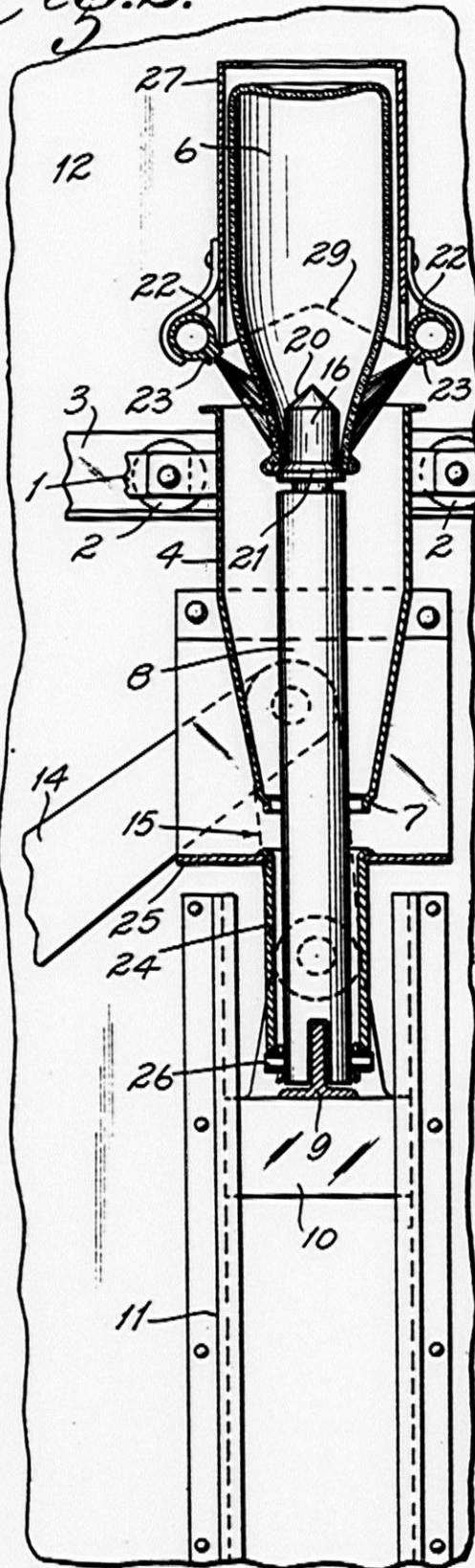


Fig. 2.



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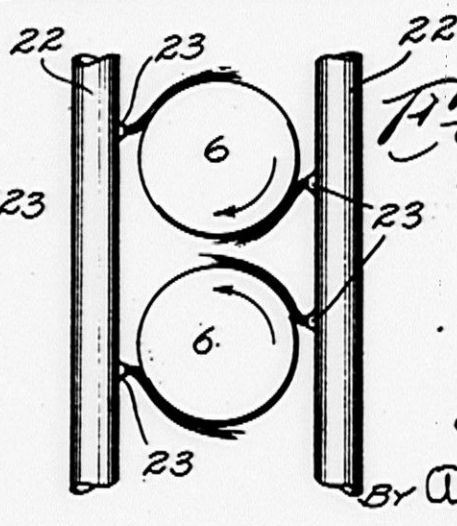
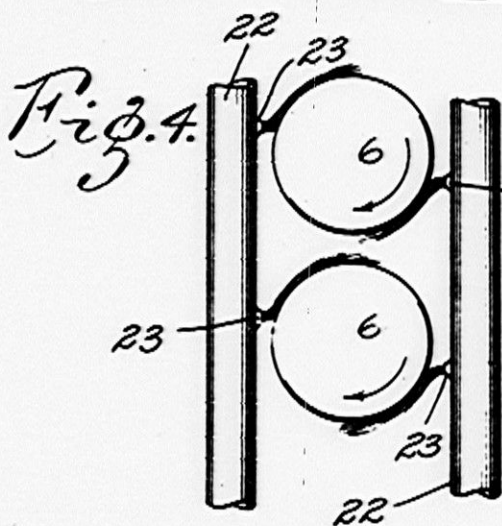
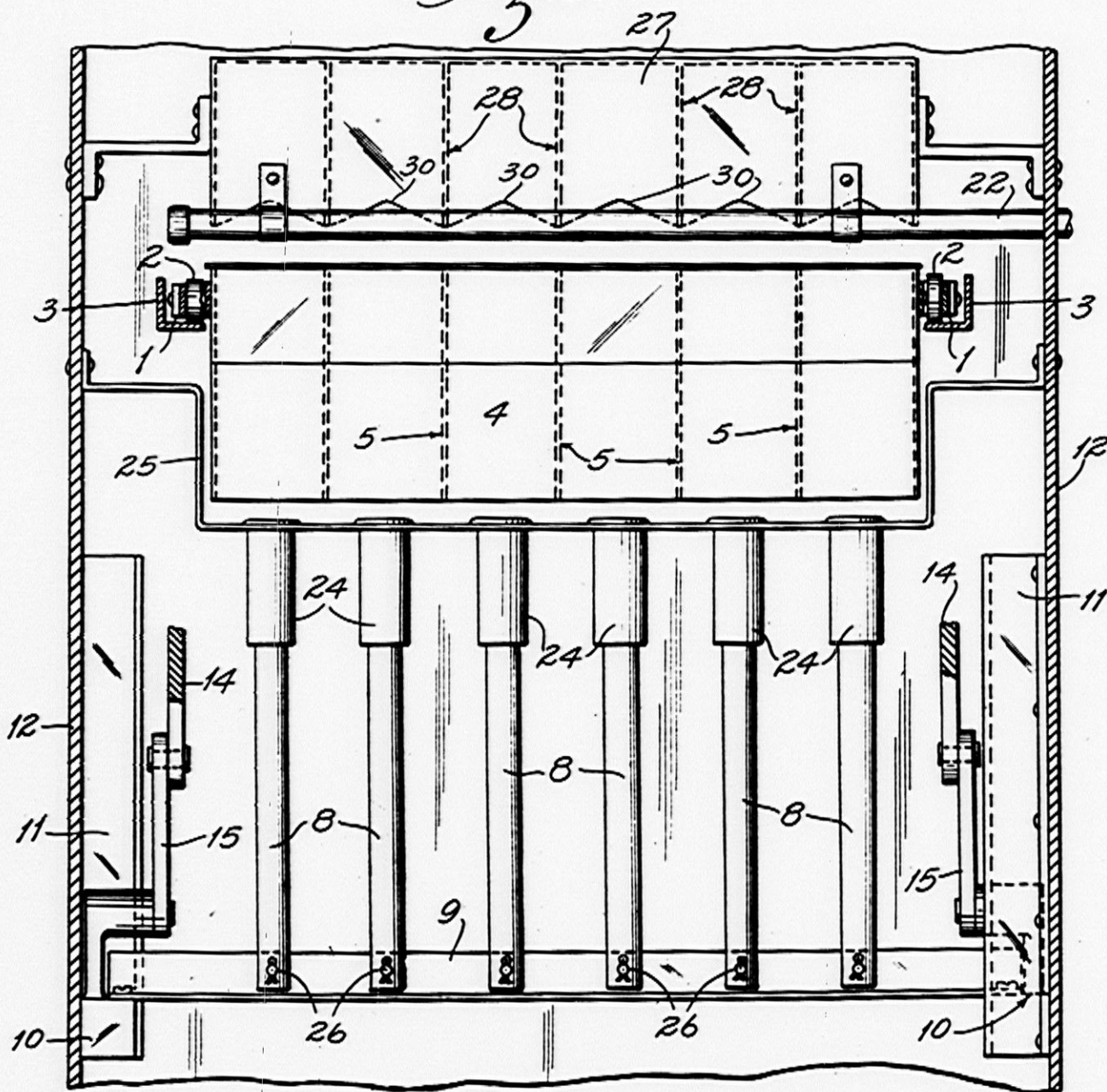
1,824,993

MEANS FOR WASHING BOTTLES

Filed Dec. 5, 1928

2 Sheets-Sheet 2

Fig. 3.



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UNITED STATES PATENT OFFICE

JAMES L. HEROLD AND JOSEPH W. DAWSON, OF ST. LOUIS, MISSOURI, ASSIGNORS TO
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MEANS FOR WASHING BOTTLES

Application filed December 5, 1928. Serial No. 324,005.

This invention relates to means for washing bottles, and the like, the main object being to produce a highly efficient cleansing operation, in a simple manner and at a relatively low cost, without using complex or expensive mechanism.

More specifically stated, an object is to use the cleansing liquid as a means for imparting rotary motion to the bottles during the washing operation. The bottles may be rotatably mounted on suitable supports, and the streams of cleansing liquid may be so directed that the liquid itself acting directly on the bottles, will cause them to rotate at a high speed. The forcible cleansing action due to the impact of the cleansing liquid, is thus distributed over a large surface area, and this may be accomplished without using special mechanism to turn the bottles.

A further object is to extend the forcible cleansing action to approximately all of the surface area to be washed by these streams, and this is preferably accomplished by moving the rotating bottles relative to the streams. For example, if the streams are projected from a stationary conductor, the rotating bottles may be moved longitudinally to receive the forcible impacts of the streams at all points on the surface between the ends of the bottles. We will hereafter show how this may be accomplished in washing one end and the entire outer surface of each bottle.

With the foregoing and other objects in view, the invention comprises the novel construction, combination and arrangement of parts hereinafter more specifically described and illustrated in the accompanying drawings, wherein is shown the preferred embodiment of the invention. However, it is to be understood that the invention comprehends changes, variations and modifications which come within the scope of the claims hereunto appended.

Fig. 1 is a vertical section illustrating a bottle washing device embodying the features of this invention, and showing a portion of the tank or housing in which the device is located.

Fig. 2 is a view similar to Fig. 1, showing the bottle in its elevated position.

Fig. 3 is a transverse vertical section showing a row of the bottle-operating devices between two side walls of the housing.

Fig. 4 is a detail view showing how the streams of cleansing liquid may be projected onto the bottles to rotate them in the direction indicated by arrows.

Fig. 5 is a view similar to Fig. 4, illustrating a different arrangement of the discharge ports, or nozzles.

We will now describe details which have been shown to illustrate one form of the invention.

The bottles to be washed may be located in a suitable carrier, or conveyor, adapted to carry the bottles to and away from the washing device. This bottle carrier comprises chains 1 provided with rollers 2 which travel on tracks 3. An elongated bottle holder 4 is carried by the chains 1, and it will be understood that any desired number of these bottle holders may be secured to the chains.

The bottle holder shown is provided with partitions 5 (Fig. 3) whereby it is divided into compartments, each adapted to receive a bottle 6, as shown in Fig. 1, the bottom of each compartment being contracted to form a seat 7 for the bottle. The upper end of each compartment is open, so the bottle can be lifted from the position shown in Fig. 1 to the position shown in Fig. 2.

Before describing the manner in which the bottles are rotated by the cleansing fluid, we will refer to a supporting device on which the bottles are rotatably mounted during the washing operation, and show how this device may be operated to lift the bottles from the bottle carrier when the latter is at rest.

The lifting means comprises a row of spindles 8 (Figs. 1 and 3) carried by a bar 9 having its ends secured to blocks 10 which are movable in vertical guides 11, said guides being at the side walls 12 of the housing. The operating means may include an oscillatory shaft 13 (Fig. 1) which may be driven from any suitable source of power, arms 14 extending from said shaft, and links 15 connecting said arms to the blocks 10, as shown in Figs. 1 and 3. It will now be understood that the

arms 14 may be oscillated to raise and lower the spindles 8.

These spindles are located below and approximately in alinement with the inverted bottles in the bottle holder 4, and the upper end of each spindle is provided with a device on which a bottle is rotatably supported during the washing operation. The bottle supports preferably include a suitable anti-friction device to permit free rotation of the bottles in response to the energy derived from the streams of cleansing fluid.

Each of the bottle supports just referred to may be made as shown in Figures 1 and 2, wherein 16 designates a bottle support in the form of a cap rotatably mounted on the upper end of the spindle 8. The spindle has a conical upper end 17 and the point at its tip contacts with the top wall of the bottle support 16, said top wall having a conical inner face larger than the conical element 17. The bottle support 16 is, therefore, quite free to rotate on the apex of the conical element 17.

As a further safeguard to reduce friction, rolling elements such as balls 18 (Fig. 1) are preferably interposed between the bottle support 16 and the upper portion of the spindle, said balls being confined by an annular groove 19.

The upper end of the bottle support 16 is tapered, as shown at 20, to freely enter the bottle, and the lower end of said support is provided with an annular flange, or shoulder, 21 forming a seat for the bottle.

During the washing operation, each spindle 8 and its bottle support 16 are raised and lowered to lift a bottle from the position shown in Fig. 1 to the position shown in Fig. 2, and thence back to the position shown in Fig. 1.

The means for rotating and at the same time washing the bottles preferably comprises a pair of tubes, or pipes, 22 located at opposite sides of the vertical courses of bottles, and provided with nozzles 23 having discharge ports from which the cleansing liquid is forcibly discharged onto the bottles. This liquid may be delivered to the pipes 22 under pressure from any suitable source.

Figures 1 and 4 show how the ported nozzles 23 may be arranged with relation to the bottles 6, and it will be important to observe that each of the discharge ports associated with any given bottle, lies at an angle to a vertical plane extending radially from the axis of the bottle and passing through the port. This non-radial condition is illustrated by Fig. 4, which shows that each bottle is acted upon by two oppositely disposed streams tending to rotate the bottle, and actual use of the device has shown that the speed of rotation is very rapid.

In Fig. 4 the nozzles 23 are arranged to turn

all of the bottles in the same direction, but the nozzles may be arranged as shown in Fig. 5, and in this event adjacent bottles will turn in opposite directions, as indicated by arrows.

Bottle carriers of the general type herein shown, including chains 1 connected to bottle holders 4, are usually very long and rather cumbersome structures, and they are usually driven step by step, with intermittent pauses, to provide for successive washing operations. Mechanism of this kind as ordinarily made, is not accurate enough to exactly predetermine the stopping point of a bottle holder, and a further inaccuracy results from the fact that the loose bottles are not always centrally located in the compartments of the bottle holders.

We have, therefore, devised a means to compensate for these inaccuracies, with the object of positively directing the elements at the upper ends of the spindles 8 into the bottles.

The upper portion of each spindle is surrounded by a stationary guide tube 24, said tubes being arranged in a row as shown in Fig. 3, and secured to a member 25 which may be attached to the side walls 12 of the housing. The lower end of each spindle 8 is loosely secured to the bar 9 by means of a pin 26, as shown most clearly in Fig. 1, the spindle being free to "wobble" on the bar.

When a spindle moves vertically, it is loosely guided by a tube 24 until the tapered upper end of its bottle holder 16 strikes either the end of a bottle or the adjacent end of the bottle compartment. The loose spindle is then easily deflected as the bottle holder enters the bottle, and the beveled seat 21 on the bottle holder is finally positioned with sufficient accuracy at the lower end of the bottle. Thereafter, as the loose spindle moves upwardly, it is guided by the surrounding tube 24.

As the bottle is lifted from the traveling bottle carrier, it enters a housing, or hood 27 where the upper end of the bottle is confined during the washing operation. This housing 27 is provided with partitions 28 which divide it into compartments, there being one compartment for each bottle. The lower edge of each partition is approximately in the form of an inverted V, as shown at 29 in Fig. 1, and the same is true of the side walls of each compartment, as seen at 30 in Fig. 3. Therefore, if a bottle is unduly displaced, its round upper end will strike these inclined edges, and this will cause the bottle to enter the housing 27.

The nozzles 23 are preferably directed downwardly (Fig. 1) to first wash the inverted bottom of the bottle. As the bottle rises, the streams of cleansing fluid strike its peripheral face, with the result of rapidly rotating the bottle while it moves upwardly

and then downwardly. The entire surface of the bottle is thus exposed to the forcible action of the liquid, so as to positively remove all particles of dirt and other material clinging to this surface.

Under the ordinary conditions, the rotating bottle will be vertical during the washing operation, and all of its weight will be supported on the apex of the cone 17 (Fig. 1), so the bottle will turn very freely. The rolling members 18 reduce friction due to any lateral thrust on the rotating bottle, and the housing 27 serves as a guide, or support, to prevent excessive displacement of the bottle.

We claim:

1. In a bottle washing device, a spindle having a pointed upper end, a bottle-holder surrounding and resting upon said pointed upper end, rolling members between the outer face of said spindle and the inner face of said bottle-holder, said bottle-holder having a shoulder on which the bottle is seated, and means comprising a device through which cleansing liquid is discharged onto the periphery of the bottle to rotate said bottle and bottle-holder during the washing operation.

2. In a bottle washing device, a support on which the bottle is mounted, means acting on the bottle itself to rotate said bottle during the washing operation, said means comprising a nozzle directed toward the periphery of the bottle at an angle to a radial plane extending from the axis of rotation of the bottle through said nozzle, through which nozzle cleansing liquid is discharged onto the bottle thereby to rotate and at the same time wash the bottle, and means whereby said support is raised and lowered during the operation of said first named means.

3. In a bottle washing device, a bottle carrier, a lifting device adapted to lift the bottles from said carrier, said lifting device including bottle supports on which the bottles are rotatably supported, and means acting directly on the bottles to rotate them on said supports, said means including a device having discharge ports, each of which is directed toward the periphery of a bottle at an angle to a radial plane extending from the axis of rotation of the bottle through said discharge port, through which ports cleansing liquid is discharged onto the bottles to rotate and at the same time wash the lifted bottles, and each of said discharge ports being at an angle to the axis of the bottle support associated therewith.

4. In a bottle washing device, a bottle carrier, a lifting device adapted to lift the bottles from said carrier, said lifting device including bottle supports on which the bottles are rotatably supported, and means acting directly on the bottles to rotate them on said supports, said means including a device having discharge ports through which cleansing liquid is discharged onto the bottles to rotate

and at the same time wash said bottles, said discharge ports being above said carrier and inclined downwardly to wash the upper end faces of the bottles, and each of said discharge ports being directed toward a bottle at an angle to a plane extending radially from the axis of rotation of the bottle through the port, so as to impart a rotative thrust through the cleansing liquid to the bottle.

5. In a bottle washing device, a bottle carrier adapted to hold inverted bottles, a lifting device below said carrier adapted to enter and lift an inverted bottle, said lifting device including a rotatable bottle holder having a tapered upper end adapted to enter the bottle and a seat for the bottle below said tapered end, a loosely mounted spindle supporting said bottle holder and a guide cooperating with said spindle and bottle holder to direct said tapered end into the bottle, and means acting upon the peripheral faces of the bottle to rotate both the bottle and said bottle holder, said means comprising a discharge device having a port through which cleansing liquid is discharged onto the periphery of the bottle, and said port being at an angle to a vertical plane extending radially from the axis of rotation of the bottle through said port so as to transmit a rotary motion from the cleansing liquid to the bottles.

6. In a bottle washing device, a bottle carrier adapted to hold inverted bottles, a lifting device below said carrier adapted to enter and lift an inverted bottle, said lifting device including a seat on which the bottle is rotatably supported when lifted from said carrier, means acting directly on the lifted bottle to rotate it on said seat, and a guard located above said carrier to receive the lifted bottle during the washing operation, said guard comprising a compartment having inclined lower edges whereby the bottle is directed into said compartment.

In testimony that we claim the foregoing we hereunto affix our signatures.

JAMES L. HEROLD.

JOSEPH W. DAWSON.

Nov. 7, 1933.

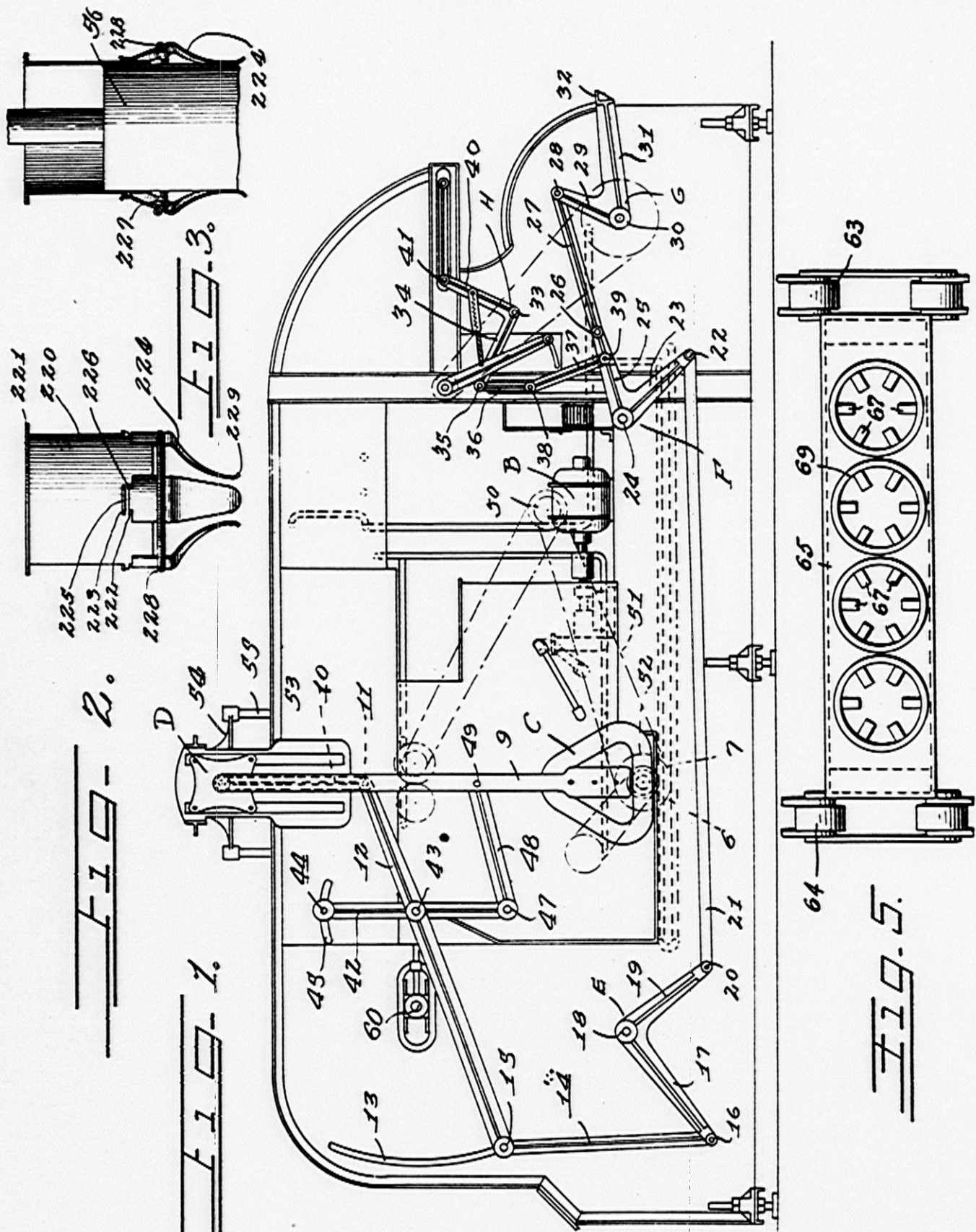
R. J. WYNNE ET AL

1,934,250

BOTTLE HOLDER FOR BOTTLE WASHING MACHINES

Filed March 4, 1932

2 Sheets-Sheet 1



110-2.

119-1.

729.5.

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Charles F. Hill Attys.

Nov. 7, 1933.

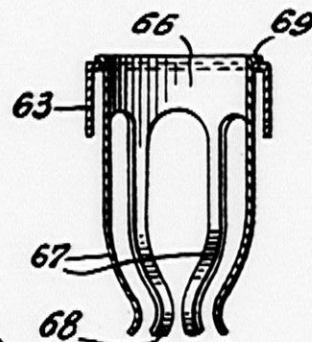
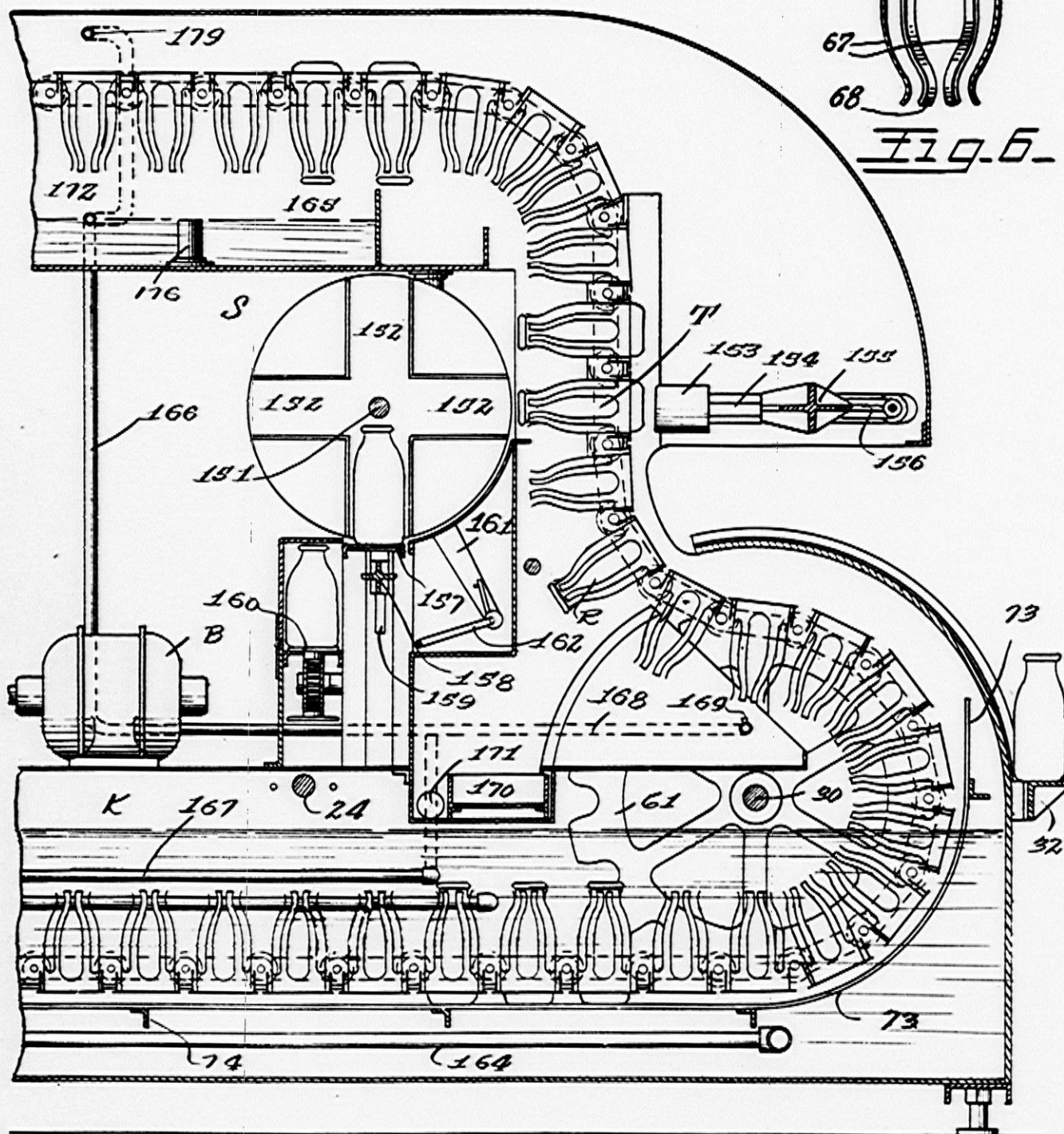
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BOTTLE HOLDER FOR BOTTLE WASHING MACHINES

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2 Sheets-Sheet 2

Fig. 4.Fig. 6.

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BOTTLE HOLDER FOR BOTTLE WASHING MACHINES

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Application March 4, 1932. Serial No. 596,717

2 Claims. (Cl. 198—131)

The present invention relates to a bottle washing machine and particularly to a machine which is useful in dairy and beverage plants for washing large quantities of bottles for re-use. The invention however is not limited to dairy or beverage use as it is susceptible of adaptation to washing bottles of any character and kind.

There are bottle washing machines in use at the present time for washing bottles in large quantities but the present machines are not completely satisfactory in that it is impossible to wash bottles of different sizes indiscriminately inserted in the machines and furthermore the present machines grip the bottles by the crowns for movement through the machines thus necessarily contaminating to some extent the crowns of the bottles even after sterilization in the machines. The present type of machines are adaptable for washing bottles of different sizes but in such event the machine must be adjusted to wash one size of bottles and then adapted to receive a different size. In other words the present machines do not wash more than one size of bottle at a time and require adjustment to accommodate the machines to bottles of different sizes.

The machine of the present invention on the other hand will, without adjustment, wash bottles of different sizes and also convey the bottles through the machine by engagement of the body of the bottle, leaving the crowns free and ejecting or unloading the bottles from the machine by pressure applied to the bottoms of the bottles.

An object of the present invention is to provide a bottle washing machine which will, without adjustment, wash bottles of different sizes.

Another object of the invention is to provide a bottle washing machine wherein bottle carriers are provided having open ends so that a bottle may be pushed out either end of a carrier, and which carrier indiscriminately receives bottles of different sizes.

A still further object of the invention is to provide a bottle washing machine wherein the bottles are unloaded or ejected by pressure means applied to the bottoms of the bottles.

A yet further object of the invention is to provide a bottle washing machine with means for unloading bottles from the machine without any part thereof coming in contact with the crowns of the bottles after sterilization.

A yet further object of the invention is to provide a bottle washing machine wherein rows of bottles of different sizes are received and are moved through the machine by an endless chain and during such movement some of the bottles are

removed from the chain and presented to brush washing and spraying means, with individual means for the several bottles whereby bottles of different sizes may be brush washed and sprayed without having to adjust the machine to the different sizes of bottles.

Another and yet further object of the invention is to provide a bottle washing machine for continuous operation whereby quantity washing of bottles of different sizes may be accomplished with minimum expense and with minimum expenditure of time involved in the washing operations.

Another and further object of the invention is to provide a bottle washing machine of the conveyor chain type adaptable for washing large quantities of bottles wherein the bottles are thoroughly washed and sterilized and removed from the machine without any part thereof coming in contact with the crowns of the bottles after sterilization.

A yet further object of the invention is to provide a plurality of individual bottle carriers so arranged that bottles may be removed and applied to either end of the carriers.

The above, other, and further objects of the invention will be apparent from the following description, accompanying drawings, and appended claims.

Generally speaking the invention contemplates a bottle washing machine of the conveyor chain type wherein a conveyor chain is provided with a plurality of bottle carriers or spring cups which carriers or cups are open at both ends so that a bottle may be forced out of either end of the carrier and which carriers have spring fingers for normally retaining the bottles therein against accidental displacement.

The invention contemplates further an unloading mechanism wherein the sterilized bottles are removed from the chain by pressure applied to the bottoms of the bottles.

The present invention will be illustrated and described in connection with an arrangement thereof suitable for washing milk bottles and it is to be understood however that the invention is not to be limited to the washing of milk bottles as the machine is readily adaptable for washing any kinds of bottles or like containers where occasion requires such a washing machine.

The present application is a continuation in part, as to all common subject matter, of applicants' copending application Serial No. 542,239 filed June 5, 1931.

The accompanying drawings chosen to ex-

emply the present invention comprise the following views:

Figure 1 is a side elevational view of a bottle washing machine such as that illustrated in co-pending application Serial No. 542,239 and including the present invention and in this figure showing in general the linkage and special gear for operating the linkage for actuating various parts of the machine.

Figure 2 is a side elevational view of a bottle holder which may be employed in the conveyor chain of the present invention.

Figure 3 is a vertical sectional view through the bottle holder of Fig. 2 showing a fragmental portion of a ram for discharging a bottle from one end of the holder, and showing how the ram maintains the fingers in spread position to receive a bottle through the finger end of the holder.

Figure 4 is a fragmental vertical sectional view through the right end of the machine as illustrated in Fig. 1.

Figure 5 is a top plan view of a bottle carrier or spring cap supporting member showing the same attached to the conveyor chain, and provided with four bottle carriers.

Figure 6 is a vertical sectional view through a spring cap or bottle carrier as illustrated in the present instance.

The drawings will now be explained.

The illustrated form of the invention comprises a casing A within which the conveying and washing and other mechanism is enclosed. The casing is supported on a floor by means of threaded up-standing bolts 1 having the lower ends headed in piece 2 which bolts extend through brackets 3 pivotally secured to the casing A. Nuts 4 and 5 vertically position the brackets 3 on the bolts 1 so as to level the washing machine casing on the floor. A motor B is suitably mounted in the casing A for driving the apparatus and also for actuating a pressure pump C.

The apparatus is of the type employing an endless conveyor chain, intermittently actuated, which chain carries a plurality of bottle carriers or cups.

A shaft 6 is transversely supported in the casing and is provided with a pinion 7, herein referred to as the driving pinion, in mesh with a triangular shaped gear C which has a gear rack about its periphery.

A connecting rod or driving link 9 is at one end fastened to the triangular gear C and its upper end is pivoted to a cross-head D.

Similar linkage members are used on each side of the casing which are similar in construction and operation and consequently the description of the linkage on one side of the machine it is believed, will suffice for both.

A link 10 is secured at its upper end to the cross-head B in pivotal relation and at its lower end is pivoted at 11 to another link 12. The other end of the link 12 is guided in an arcuate slot 13 formed in the side of the casing. A link 14 has one end pivoted at 15 to the lever 12 and its other end pivoted at 16 to an arm 17 of a bell crank E which bell crank is secured to a shaft 18 extending through the casing. The other arm 19 of the bell crank E is pivoted at 20 to one end of a long lever 21, the other end of which lever or link is pivoted at 22 to an arm 23 of a bell crank F. Bell crank F rocks a shaft 24 suitably journaled in the machine. The other arm 25 of the bell crank F is pivotally connected at 26 to one end of a link 27 the other end of which is pivoted at 28 to an arm 29 of a bell crank G.

The bell crank G rocks a shaft 30 extending transversely of the machine at the right hand or loading end of the same. The other arm 31 of the bell crank G, sometimes referred to herein as a loader arm, extends a slight distance beyond the front end of the machine to afford a seat 32 for receiving bottles and moving the same into engagement with the carriers on the conveyor chain. The bell crank G is herein sometimes referred to as the loader.

A bell crank H rocks about a stud 33 above the loader. One arm 34 of the bell crank H is pivoted at 35 to one end of a slide member 36 which is guided for vertical reciprocation in the machine structure. A link 37 is pivoted at one end at 38 to the slide member 36 and at its other end pivoted at 39 to the arm 25 of the bell crank F between its shafts 24 and the pivotal connection 26 with the link 27. The other arm 40 of the bell crank H is pivoted at 41 to a slide for the un-loader which will hereafter be explained.

A link 42 is pivoted intermediate its ends at 43 with the link 12 and at its upper end a pin 44 extends transversely into the casing through a slot 45 formed in the casing. The pin 44 is, inwardly of the casing, provided with pawls for imparting step by step or intermittent motion to the conveyor chain. The lower end of the link 42 is pivoted at 47 to a link 48 the other end of which is pivoted at 49 to the connecting rod 9 intermediate its ends.

A reduction gear is associated with the motor B and has as a part thereof a sprocket 50 for driving a sprocket chain 51 secured to the drive shaft 6 for rotating the same. The sprocket chain 51 engages a sprocket wheel 52 on the shaft 6.

The cross-head D is guided in guide members 53 formed as a part of the washing machine.

The cross-head D is provided with a yoke 54 which in present instance is provided with a plurality of depending rods 55 carrying at the lower ends thereof pusher blocks for dislodging bottles from the conveyor at certain positions in the travel of the same.

Figure 4 illustrates portions of the apparatus for carrying out some of the steps of the bottle washing cycle.

Lower rear sprockets, (not shown), are mounted on the shaft 18 which is suitably journaled in the apparatus. Upper rear sprockets, (not shown), are supported on a shaft 60 near the upper rear part of the machine.

Front lower sprockets 61 are carried on a shaft 30 disposed near the lower front end of the machine while upper front guide plates, not shown, are provided for supporting and guiding the conveyor chain.

The conveyor as a matter of fact comprises two chains 63 and 64 (portions of which are illustrated in Fig. 5) which chains are arranged along each side of the casing and are cross connected at intervals in the length thereof by members 65 which in turn are provided with a plurality of bottle carriers or spring cups. There are four such cups illustrated as being carried by one of said cross members.

The conveyor member therefore consequently comprises two chains, 63 and 64 at each side of the machine connected at intervals in the length of the same by the cross members 65 which members constitute bridges, thus cooperating with the chains to form a complete bottle conveyor element.

The bridge members 65 are formed as channels as may be observed in Fig. 8.

There are two forms of bottle carriers or spring cups herein illustrated, namely the form shown in Figures 2 and 3 and the form illustrated in the other figures of the drawings.

It is understood that in the bottom run of the conveyor the bottle carriers are upright, that is with the spring fingers 67 extending upwardly and in the top run the carriers are inverted, that is the fingers 67 extending downwardly. Thus in bottom run holding the bottles erect and in the top run inverted or reversed in position.

Within the lower portion of the machine and including the lower run of the conveyor is a soaking bath tank K which is shown as extending from end to end of the machine but of course might be made as a series of compartments separated one from another so that the temperatures of the soaking solutions in the various tanks might be varied if desired.

A series of flat metal strips 73 are secured by angle members 74 in the tank and underlie the paths of movement of the bottle carriers of the conveyor. These strips are provided so that the bottoms of the bottles may rest on the same as the bottles are moved to the soaking bath and to prevent dislodgment of the bottles should some of such bottles be smaller than the carrier. The strips 73 are curved upwardly at each end to conform with the paths of movement of the conveyor through the soaking tanks.

Loader

The loader as before stated comprises the bell crank G and its associated arm 31 and bottle support 32. As the bell crank G is moved in counter-clockwise direction as viewed in Fig. 1 by the linkage in a manner to be hereinafter described, the bottles placed on the shelf 32 are raised and carried along and pushed into bottle carriers in the position R of Figure 4 which is the bottle receiving position of the bridge members of the conveyor. It will be observed that the carriers in this position are inclined downwardly so that bottles delivered thereto will be moved into the carriers for movement to the machine.

Unloader

The unloader of the present invention comprises a receiver shown in the present instance as a rotatable casing F (Fig. 4) which is arranged for clockwise rotation about a shaft 151. The receiver S is provided with a plurality of pockets 152 disclosed in the present instance as 90° apart. The receiver is given intermittent rotary motion in clockwise direction by the linkage hereinafter described.

A plurality of horizontally disposed pusher blocks 153 are carried on stub extensions 154 of the horizontally movable cross-head 155. The cross-head is guided in slots 156 formed in the sides of the casing A and is actuated by the arms 40 of the bell crank H. The pockets or compartments 152 of the receiver S are transversely partitioned to provide pockets for receiving bottles ejected from the conveyor by the pusher blocks 153.

The receiver S is given motion of rotation of 90° as the conveyor is moved one step by its driving mechanism.

The receiver S receives bottles discharged horizontally from the bottle carriers in the position T, bottles being pushed into the contiguous pockets of the receiver through the bottle carriers by

the pusher blocks 153. The pusher blocks 153 act against the bottoms of the bottles pushing the same out of the bottle carriers so that the tops of the bottles are adjacent the shaft 151. When the receiver is given rotative movement of one step the bottles are then deposited on a platform 157 underlying the open end of the lower pocket when in vertical position. The platform 157 is carried on a cross-head 158 guided for vertical movement. Rods 159 are mounted in a cross-head 158 to support the platform 157. The cross-head 158 is connected by the pivot 38 of the linkage and is lowered during the time the chain conveyor is at rest. The platform 157 is lowered to register with an endless belt 160 which is illustrated as discharging outwardly of the side of the casing A for receiving from the platform 157 the bottles discharged thereon from the receiver S. The bottles are kicked from the platform 157 onto the belt 160 by a kicker mechanism including arms 161, which are freely mounted on the ends of the shaft 151 and which at the lower ends are connected by a member 162 constituting a foot. The arms 161 are given movement in clockwise direction to kick the bottles onto the belt 160 by means of a link 163 which at one end is connected to the arm 161 and at the other end has an enlarged portion with a slot therein through which projects a pin on the arm 40 of the bell crank H thus constituting a lost motion connection in the arm 161 in the bell crank H. As the pusher block 153 of the unloader moves to the left as viewed in Figures 1, 4 and 7 of the drawings the arm 40 of the bell crank H moves through the slots of the arm link 163 and on completion of the movement of the ejector crosshead will cause the arms 161 to swing in clockwise direction thus kicking off the bottles on the platform 157 onto the belt 160. Continued movement of the linkage raises the platform 157 into the position shown in Figure 4 for receiving another lot of bottles from the receiver S.

It will be observed that when bottles are loaded into the conveyor such bottles are so loaded by pressure against the bottoms of the bottles. When the bottles are removed from the conveyor at the intermediate bottle washing stage it is done by pressure applied to the bottoms of the bottles. Again when the bottles are removed from the conveyor for transmission away from the machine such movement is accomplished by pressure applied to the bottoms of the bottles. Thus at no time are the bottles engaged by the necks, and consequently when the bottles are finally discharged from the machine same are sterile about the necks as the necks have been untouched by any part of the loading or unloading mechanism.

The operation of the washing machine is as follows:

The soaking bath tank K has of course been filled with a soaking solution of proper consistency preferably a caustic solution made from a suitable alkali. This soaking bath is heated to proper temperature and a plurality of bottles are assembled for loading into the machine.

The motor B is put in operation whereupon the driving pinion 7 is rotated by driving shaft 6 to actuate the gear rack 8 of the triangular gear member C. Looking at Figure 1 the direction of rotation of the shaft 6 and its supported pinion 7 is counterclockwise such movement therefore will cause the triangular gear C to move to the left as viewed in Figure 1 when the horizontal portion of the rack 8 is in engagement with the

driving pinion 7 and causing movement of the triangular gear C downwardly and to the right when the right hand leg of the rack 8 engages the driving pinion 7 and upwardly and to the right when the left hand leg of the rack is in engagement with the driving pinion 7. Movement to the left being effected only when the horizontal portion of the rack engages the driving pinion.

Consequently vertical reciprocal motion is imparted to the crosshead D and swinging movement imparted to the driving link 9 for actuating the link controlled by the up and down and swinging movement of the driving link 9.

The bottle carriers or cups illustrated in Figures 2 and 3 comprise a body 220 of cylindrical form having an outturned flange 221 at one end whereby the cups may be secured to the bridge members 65. Near the other ends of the bodies 220 sets of parallel slots 222 and 223 are formed and fingers 224 have hook members 225 hooked through the slots 222 and then up outwardly through the slot 223 thus engaging the partition 226 between the slot for retaining the fingers in position. The fingers have near the hinged ends thereof depression 227 which extend inwardly and which receive the circular spring 228 whose function is to keep the fingers contracted and allow spreading thereof when a bottle is pushed through the cup. The other ends of the fingers curve inwardly and lie in closely adjacent position under influence of the spring 228. The tips of the fingers are outturned at 229 to aid in ease of application or insertion of a bottle in this end of the carrier.

The bottle carriers of Figures 2 and 3 as readily support bottles of various sizes as do the carriers illustrated in the other figures of the drawings.

Figure 3 illustrates the action of the fingers 224 whenever one of the pusher blocks 56 is pushed through the carrier for spreading the fingers and dislodging a bottle from the finger end thereof in the same manner as these pusher blocks 56 dislodge bottles from the bottle carriers of the other figures. As soon as the pusher 56 of Figure 3 is withdrawn the spring turns the fingers to normal position which is that shown in Figure 2.

The bottle holders illustrated in Figures 2 and 3 are supported in the cross members 65 substantially in the same manner as the bottle holders 67.

In any event the bottle holders of the present invention allow insertion or removal of a bottle from either end of the carrier and includes spring fingers for normally retaining bottles within such carriers as the same are moved to the washing machine.

The gist of the present invention resides in the provision of bottle carriers of such form and arrangement that bottles may be inserted at either end and detained therein for movement thru a bottle washing machine. The invention further contemplates the provision of spring fingers for retaining in the carriers when in inverted position bottles of various sizes.

The bottle holders and carriers of the present invention, when adapted for milk bottle washing machines, receive quart sized bottles, pint sized bottles and gills with equal facility and wash these various sizes indiscriminately as the same are presented to the machine.

This washing of indiscriminately loaded bottles of various sizes is made possible by the particular bottle carrier or cup of the present invention.

This invention has been described herein more or less precisely as to details yet it is to be understood that changes may be made in the arrangement and proportion of parts and equivalents may be substituted without departing from the spirit and scope of the invention.

The invention is claimed as follows:

1. In a bottle washing machine of the conveyor type, a row of bottle carriers consisting of a cross member supporting a plurality of cylindrical bottle receiving bodies of fixed diameter, said bodies being open at both ends, every body having a plurality of convergent fingers hinged to the body at the inner end thereof, springs surrounding said fingers for normally maintaining the free ends thereof in close relationship to prevent accidental dislodgment of bottles through said fingers, and pusher elements effective at a certain portion in the machine for dislodging bottles from the conveyor, said pusher elements acting against the bottoms of the bottles in a row and forcing the bottles out of the carriers between said fingers, said springs yielding to allow spreading of the fingers to permit passing of the bottles through the same, the pusher elements spreading the fingers to permit release of the bottles from the fingers.

2. A bottle carrier for a bottle washing machine including a cylindrical body open at both ends, convergent fingers hinged to one end of said body, and a spring encircling said fingers for normally maintaining the free ends thereof in close relationship, said spring yielding to allow spreading of said fingers to permit passage of a bottle out of said body through and between said fingers.

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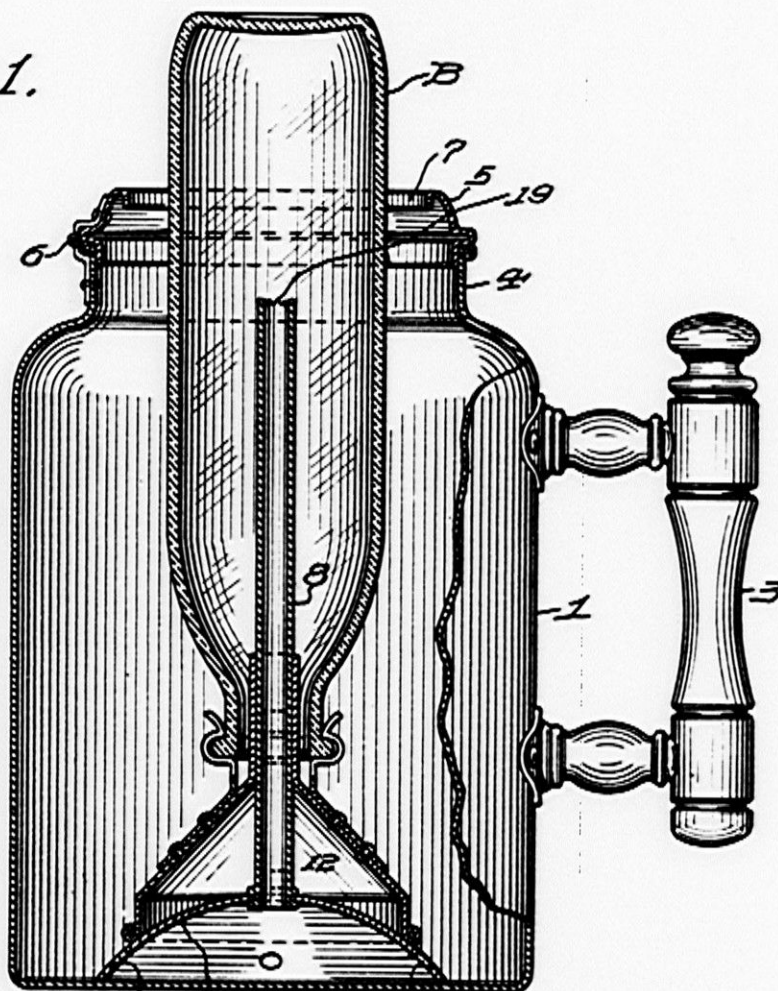
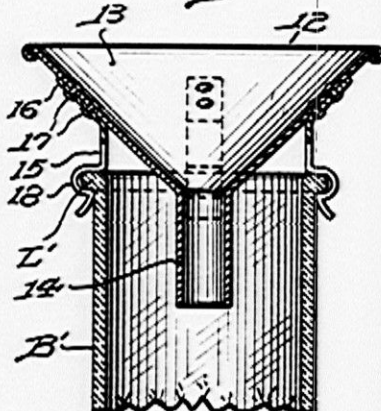
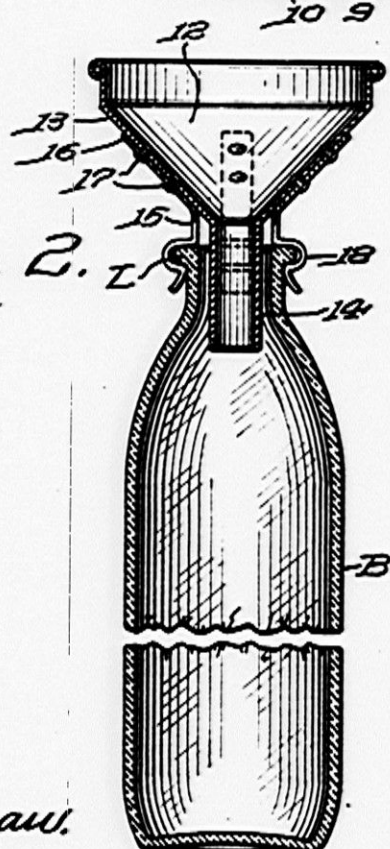
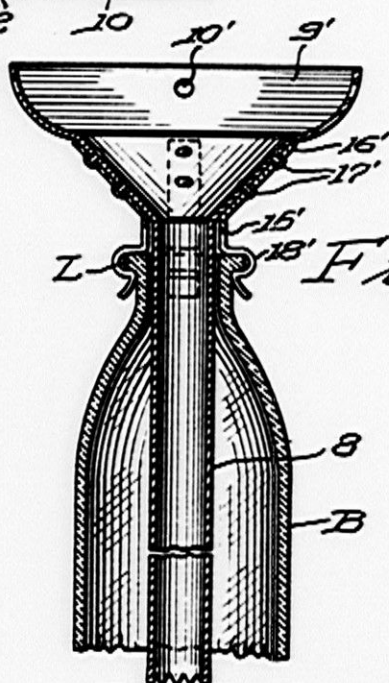
Jan. 20, 1931.

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1,789,684

BOTTLE STERILIZING APPARATUS

Filed May 15, 1926

Fig. 1.*Fig. 3.**Fig. 2.**Fig. 4.*

WITNESS

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BOTTLE-STERILIZING APPARATUS

Application filed May 15, 1926. Serial No. 109,263.

A principal object of my invention is to provide a simple, portable, relatively inexpensive device for sterilizing and cleansing nursing and other bottles of like character which is so designed and constructed that after the sterilization is completed the bottle may be filled with a maximum of convenience and in such manner as to avoid the possibility of contamination either of the bottle itself or of the contents as they are poured thereinto.

Further objects of my invention are to provide a sterilizing device of the character aforesaid which may be used in connection with an ordinary kitchen stove or other source of heat thus facilitating the employment of the device either at home or while traveling; which may be readily cleaned; which embodies but a small number of parts of a relatively simple character whereby the device may be manufactured and sold at a comparatively low price; and which includes as one of its operative parts a funnel-like element which acts as a support for the bottle during the sterilizing operation and at the completion of the same and while, like the bottle, in sterile condition and attached thereto, is employed to facilitate the filling of the bottle so that the contents of the bottle are introduced through a sterile element supported from and adjacent the neck of the bottle thus avoiding any necessity for touching the neck or upper part of the bottle during the filling operation or utilizing a separate, and possibly unsterile, funnel or like device to assist in the introduction of the contents.

My invention further includes other objects and novel features of design, construction and arrangement to which reference is hereinafter more specifically made or which will be apparent from the following description of certain embodiments of my invention as illustrated in the accompanying drawing.

In the said drawing Fig. 1 is a central vertical section of a preferred embodiment of the invention with a bottle in position for sterilization therein, the handle and a portion of the adjacent wall of the container being shown in elevation; Fig. 2 is a central vertical section of the bottle and funnel after

removal from the container following the completion of the sterilizing operation and preparatory to the bottle being filled; Fig. 3 is a fragmentary view similar to Fig. 2 but showing a bottle of somewhat different form and a funnel suitably modified for use therewith, and Fig. 4 is still another view of like character but illustrating a modified form of the invention. The same symbols are used to designate corresponding parts in the different figures.

Referring now more particularly to the form of the invention shown in Figs. 1 and 2, the same comprises a generally cylindrical container 1 having a bottom 2 adapted to rest on top of a stove or the like and provided with a handle 3 of any suitable form. This container is preferably made of metal such as aluminum or tin and may be slightly constricted at its upper end to form a neck 4 which is closed by a cover 5 which may be hinged to the neck at 6 if desired. This cover is provided with a central circular opening 7 which is preferably of suitable diameter to permit the passage of the funnel hereinafter more specifically described so that the latter, when operatively attached to the bottle B may be inserted into the container through the opening or withdrawn therefrom without the necessity of opening the cover.

Disposed within the container is an element which, for convenience, I term the circulating element and which comprises a tube 8 one end of which is firmly secured to a base 9 preferably at the center thereof; this base is of upwardly dished or generally conical shape and is adapted to rest in inverted position on the bottom 2 of the container so that the tube 8 will extend upwardly in the container and terminate preferably near the upper end thereof. For permitting a circulation of water or other fluid from the interior of the container to the interior of the base, the latter is provided with a plurality of holes 10 located near its marginal edge, and I deem it ordinarily preferable that the circulating element be unsecured to the container so that it may be readily withdrawn from the latter by opening the cover to facilitate the cleansing of the parts.

During the sterilizing operation the bottle is supported from the circulating element in inverted position over the tube 8 preferably through the medium of a funnel, generally designated as 12, which may comprise the usual generally conical hopper 13 and a short tube 14 extending from the center thereof and adapted to freely enter the neck of the bottle. The funnel is, however, provided with means for effecting a connection with the bottle of such character as to firmly yet removably hold the bottle in inverted substantially vertical position when the funnel is seated on the base 9 during the sterilizing operation and to maintain the funnel above and spaced from the mouth of the bottle with the funnel tube projecting into its neck after the sterilizing operation is completed and preparatory to and during the filling of the bottle with milk or other desired contents. While the said means may partake of any suitable form, I prefer to employ for the purpose a plurality of spring clips 15, conveniently four in number, disposed symmetrically about and spaced from the exterior of the funnel tube 14 and attached to the hopper of the funnel in any suitable way; conveniently by providing each clip with an angularly disposed extension 16 adapted to lie against the exterior of the hopper and to be secured thereto by rivets 17 or in any other suitable way. The opposite or free end 18 of each clip may be suitably curved to receive the peripheral lip L at the end of the neck of the bottle and thence flared slightly outwardly to facilitate the insertion of the lip between the clips by pushing the funnel downwardly onto the bottle so as to cause the clips to spring apart and then engage over the lip after it is aligned with the curved portion of the clips. The specific form and arrangement of the clips, however, is a matter of choice so long as the same are effective to detachably support the funnel in axial relation with the bottle and with the lower part of the hopper funnel spaced slightly from the extremity of the neck so as to permit the ready passage of fluid in and out of the neck between the exterior of the funnel and the interior and end of the neck.

When employing the device for the sterilizing of a bottle, the circulating element is first disposed in the container which has been partially filled with water or other sterilizing medium so that the tube 8 will extend upwardly therein and preferably substantially axially thereof. The bottle with the funnel previously attached to its neck through the medium of the clips or other attaching and supporting device is then inverted and the funnel passed through the opening in the cover of the container and over the projecting end of the tube of the circulating element, the exterior diameter of which is slightly less than the interior diameter of the funnel tube

so as to allow the latter to readily slip over the former. The operator, holding the bottle near its bottom end, then lowers the bottle and funnel until the latter seats on the upper surface of the base of the circulating element so as to support the bottle in upright inverted position substantially as shown in Fig. 1. Heat is now applied to the bottom of the container so as to cause the water therein to boil, with the result that an active circulation of water is set up within the container and the circulating element whereby the boiling water is caused to issue from the upper end of the tube 8 into the interior of the bottle with considerable force, thus thoroughly cleansing and sterilizing the interior of the bottle while the exterior thereof is also cleansed and sterilized by the steam which ascends from the body of boiling water within the container, the funnel being likewise thoroughly cleansed and sterilized by the boiling water and steam with which it is surrounded or immersed. While this circulation is in progress the water and steam which pass from the interior of the base of the circulating element up through the tube and thence to the interior of the bottle are constantly replaced with water which is drawn into the base through holes 10 or equivalent openings from the main body of water in the container while the water from the interior of the bottle flows downwardly therefrom through the neck which, as stated, is spaced from the body of the funnel and thence returns to the main body in the container. It is desirable that the upper end of the tube of the circulating element terminate more or less adjacent the bottom of the bottle and I therefore prefer to provide the end of the tube with serrations 19 so that if a bottle be inserted in the apparatus which is so much shorter than the bottles which it is particularly designed to accommodate that the bottom of the bottle comes into contact with the end of the tube, the circulation of the sterilizing medium from the tube into the bottle may still take place through the openings afforded by the serrations.

After the circulation has been maintained for a sufficient period to thoroughly cleanse and sterilize the bottle, the apparatus is preferably removed from the source of heat and the bottle and funnel lifted out as a unit by grasping the projecting bottom portion of the bottle, and the latter then turned to upright position and rested upon a suitable supporting surface. The bottle may now be filled by pouring the milk or other desired contents into the hopper of the funnel and when the filling operation is complete the funnel may be removed by taking hold of the lower part of the bottle with one hand and pulling the funnel upwardly with the other by grasping the upper edge of the funnel hopper.

It will thus be observed that both the funnel and the bottle are thoroughly cleansed

and sterile when removed from the container and that it is entirely unnecessary either when removing the bottle or when it is being filled or even when the funnel is being removed from the bottle after the filling operation to bring the hands into contact with or in fact even near the mouth of the bottle, so that all liability of contaminating the sterile bottle from that source is avoided as well as the necessity of using an unsterile or separate funnel or the like to assist in filling the bottle and which, when so used, frequently results in the contamination of the contents of a bottle even though the latter is in itself initially thoroughly sterile.

In the form of bottle shown in Figs. 1, 2 and 4 which is of a type in common use, the neck is of considerably smaller diameter than the body in consequence of which the spring clips in an apparatus intended for sterilizing bottles of this general character will be arranged rather closely together and preferably quite near the juncture of the tube and hopper of the funnel so as to properly engage and support the lip and neck of the bottle. Recently, however, a somewhat different form of nursing bottle which is of the same diameter throughout its length has attained considerable popularity and the mouth portion of a bottle B' of this character is shown in Fig. 3. Similarly to the bottle shown in the other figures, this bottle is also provided with a lip L' over which the nipple engages when positioned on the bottle, but by reason of the relatively large diameter of the bottle at this point it is requisite to suitably arrange the means by which the funnel and bottle are operatively connected so that the lip of the bottle may be readily received therein. This result can be readily accomplished by disposing the spring clips or other supporting means relatively far apart as shown in Fig 3, it being of course desirable to so proportion and arrange the parts that the end of the funnel tube will project into the bottle for a short distance when the funnel is operatively attached thereto.

While I have illustrated two different forms of bottles and arrangements of spring clips respectively suitable therefor, it will of course be understood that if other forms of bottles are to be employed in connection with the apparatus, the spring clips or other equivalent means for connecting the funnel to the bottle will be arranged in accordance with the particular conformation of the neck and lip of the latter.

In Fig. 4 I have shown a somewhat modified form of the invention in which the funnel is entirely omitted and the spring clips or other bottle supporting means attached directly to the exterior of the base 9' of the circulating element which in this case may desirably be more generally of hopper-like form

and is provided with a central circulating tube 8' corresponding to the tube 8. When using an apparatus constructed in accordance with this embodiment of the invention, the circulating element is secured directly to the bottle through the medium of the spring clips 15' and the bottle then inverted and the base of the element seated on the bottom of the container. Then after the sterilization of the bottle has been effected in the manner hitherto described, the bottle with the circulating element still attached thereto is removed from the container and inverted and the base of the container utilized as a hopper for the reception of the contents of the bottle during the filling operation after which the circulating element is separated from the bottle. The modified form of the invention is equally as effective insofar as the sterilization of the bottle and prevention of contamination of the contents is concerned as is the preferred embodiment thereof, but is considered by me as slightly less desirable by reason of the fact that if the tube of the circulating element be made long enough to terminate adjacent the bottom of the bottle when the latter is inverted thereover to thereby assure an adequate and effective circulation of the sterilizing medium within the bottle, difficulty is experienced in filling the bottle entirely full when using the circulating element as a filling device. For this reason I therefore under ordinary conditions prefer to utilize the form of the invention shown in Figs 1, 2 and 3.

While I have herein described and illustrated certain forms of my invention with considerable particularity I do not thereby desire or intend to specifically limit myself thereto nor to any precise details of form, construction or arrangement of the various parts as the same are capable of considerable modification from the particular embodiments to which I have referred, and the invention may be readily utilized for the sterilization of bottles other than nursing bottles, without departing from the spirit and scope of the invention as defined in the appended claims.

Having thus described my invention, I claim and desire to protect by Letters Patent of the United States:

1. A bottle sterilizing device comprising a fluid container, a circulating element adapted for disposition in the container and having a dished base and a tube extending upwardly therefrom and communicating with the interior thereof, and means for supporting a bottle in inverted position over the tube and in spaced relation with the base comprising a funnel having a hopper whose rim is adapted to rest on the surface of the base and a tube adapted to surround said first mentioned tube and means for remov-

ably securing the funnel to the neck of the bottle.

2. A bottle sterilizing device comprising a fluid container, a circulating element adapted for disposition in the container and having a dished base and a tube extending upwardly therefrom and communicating with the interior thereof, and means attachable to and movable with a bottle for supporting the bottle in inverted position over the tube comprising a funnel adapted to rest in inverted position on the surface of the base and having a plurality of spring clips adapted to engage the neck of the bottle.

3. A bottle sterilizing device comprising a fluid container, a circulating element disposed in the container having a perforated base and a tube extending upwardly therefrom, and means attachable to and movable with a bottle for supporting the bottle in inverted position over the tube comprising a funnel having a tube adapted to enter the neck of the bottle, a hopper portion adapted to rest on the surface of the base and means for detachably connecting the funnel to the bottle so as to maintain the hopper of the funnel in spaced relation with the end of the bottle neck.

4. A bottle sterilizing device comprising a container for containing a sterilizing fluid, a circulating element disposed in the container and having a hollow base and a tube communicating with the interior thereof and extending upwardly therefrom, a funnel adapted to be slid over said tube from the top of the container to rest on the surface of the base and comprising means for detachably connecting the funnel to the neck of a bottle whereby when said funnel is disposed in inverted position on the base said tube will extend upwardly within the bottle, said funnel being withdrawable from the container with the bottle.

5. A bottle sterilizing device comprising a container for containing a sterilizing fluid, a circulating element disposed in the container and having a perforated upwardly dished hollow base and a tube communicating with the interior thereof and extending upwardly therefrom the upper end of the tube being serrated, a funnel adapted to be slid over said tube from the top of the container to rest on the surface of the base and comprising spring clips for detachably connecting the funnel to the neck of the bottle whereby when said funnel is disposed in inverted position on the base said tube will extend upwardly within the bottle, said funnel being withdrawable from the container with the bottle.

6. As an article of manufacture, a fluid circulating element adapted for disposition in a fluid receptacle and comprising a hollow base and a tube extending therefrom and communicating with the interior thereof,

and a funnel adapted to be slid over the tube in inverted position to rest on the base and provided with means for supporting a bottle in inverted position over the tube.

7. A bottle sterilizing device comprising a container, a circulating element adapted for disposition in the container and comprising an upwardly dished, perforated base and a tube extending vertically upward therefrom and communicating with the interior thereof, and means removably secured to the neck of the bottle and cooperative with the base for operatively supporting a bottle in inverted position over the tube with the end of its neck spaced from the base of the circulating element.

In witness whereof, I have hereunto set my hand this 12th day of May, 1926.

JULIUS J. LOZOWSKY.

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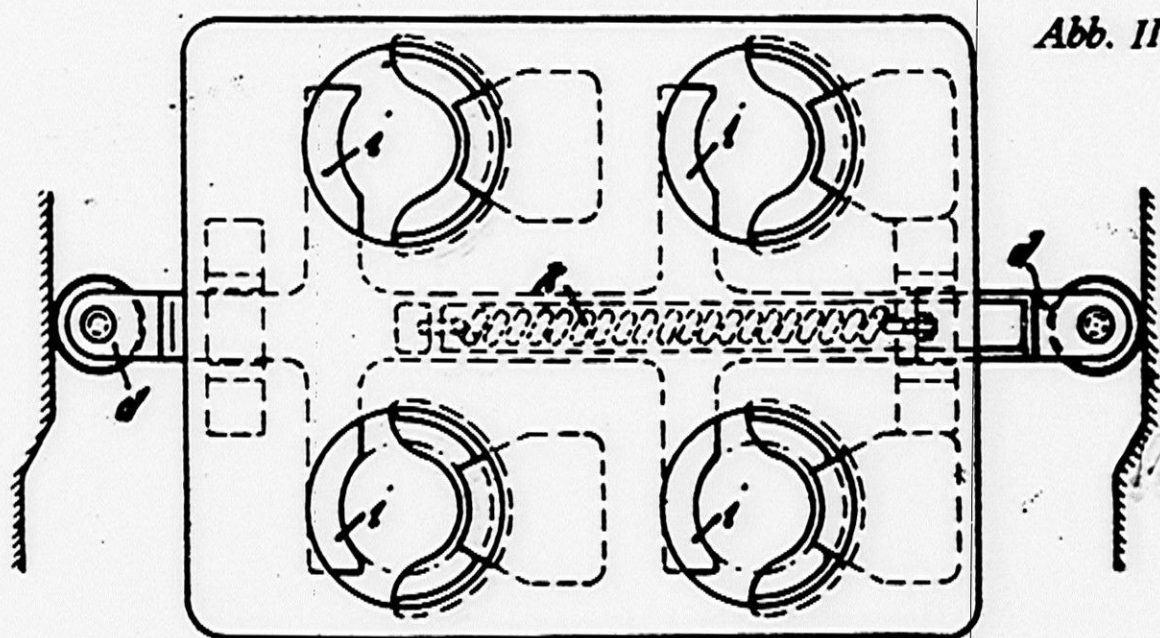
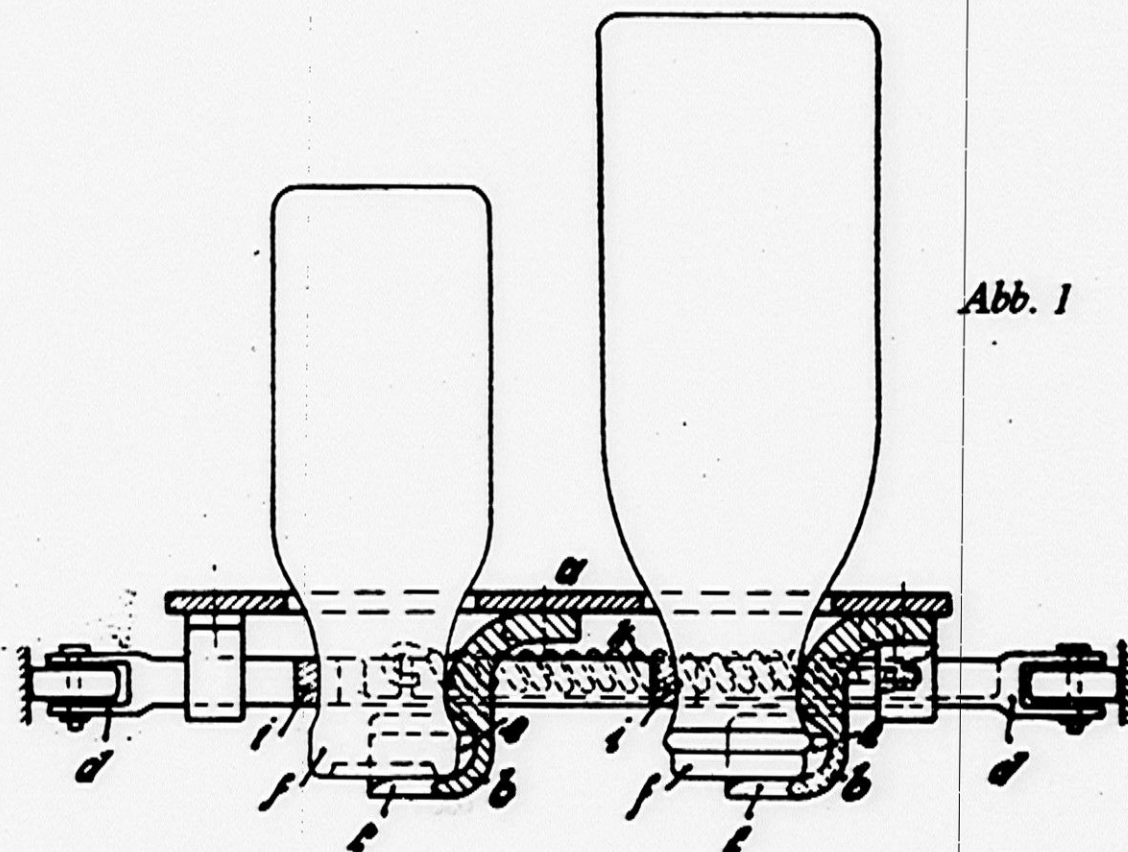
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405 TRANSLATION OF GERMAN PATENT NO. 524,-
003, CLASS 64 B GR. 2, TO WILLY RÜPRICH
OF HALLE A. S. PATENTED IN GERMANY
FROM JAN. 3, 1929, PUBLISHED MAY 1, 1931.
BOTTLE WASHING MACHINE.

The invention relates to bottle washing machines in which the bottles are moved along by endless conveying means such as link chains or the like and in so doing various operations such as preliminary spraying with hot solution, subsequent spraying with water, soaking in soft water, draining etc. are performed thereupon.

Machines for similar purposes are known in which the conveying means for the bottles is provided with automatically opening and closing holding links which consist of individual movable tongs embracing the bottles by the neck.

Furthermore bottle cleaning machines are known in which the bottle holders are arranged in series and specifically as far as the conveying means is concerned in rows both side by side as well as in succession.

The invention aims at making machines of this type more efficient in respect to the bottle output per hour than those hitherto known, in particular making the locking means for the locking of the individual bottles on the links of the conveyor structurally more simple and thereby diminishing the costs of production and maintenance of such machines to a considerable degree.

406 The invention consists in that the movable tongs parts of the bottle holders are structurally connected to form a unit of several holders, specifically in groups of four, six and more by means of a shiftably mounted arm which is located between every two adjacent rows of bottle holders and on which are seated the movable tongs parts of the bottle holders.

A holding device constructed according to this proposal for bottle washing machines is diagrammatically shown in the drawing in one example and that specifically:

Fig. 1 in a vertical section through the arrangement and in fig. 2 in ground plan.

On the under side of the carrying plates *a* provided with four or more openings to receive bottles each of which

forms a link of the endless chain bottle conveyor are provided fixed tongs *b* which embrace the bottles inserted with the top down laterally by the neck and brace themselves at the mouth at *c*. The collar at the mouth of the bottle is inserted in so doing into a recess *e*.

Between the two rows of bottles there is provided on the carrying plate *a* an arm *d* shiftably journalled which is under the action of a spring *k* and is controlled by means of sliding rollers as well as lateral, stationary starting and stopping cams.

On the arm *d* are laterally attached all the movable 407 holding tongs parts *i*—in the present example four— which in their working position press the bottles against the stationary tongs parts *b* and thus hold them fast.

The circumstance that a greater number of bottle holding arrangements are opened at one time facilitates the the loading of the machine.

Patent Claim.

Bottle washing machine in which the bottles are moved along by endless conveying arrangements such as link chains or the like and are held by their neck by automatically opening and closing tongs, characterized in that the bottle holders arranged in adjacent and also successive rows are joined to form a unit in that the movable tongs parts (*i*) of the bottle holders are controlled by a common working bar (*d*) shiftably mounted transversely to the direction of conveying.

Tr/CP.

• • • • •

Applicants' Drawings, Defendant's Exhibit H,

Sheets 1-4 Pages 135 to 141

135

Fig. 3.

Fig. 1.

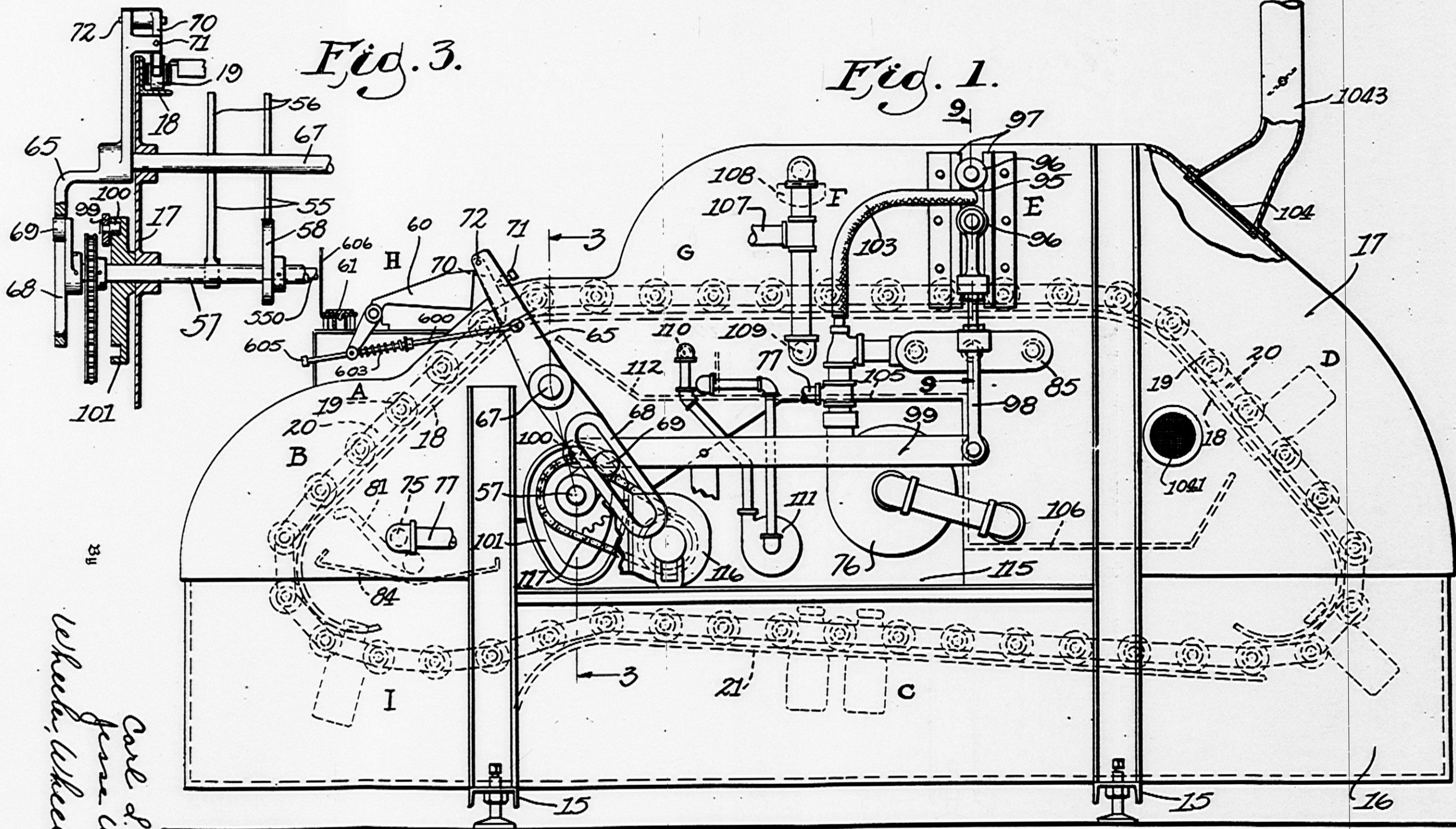
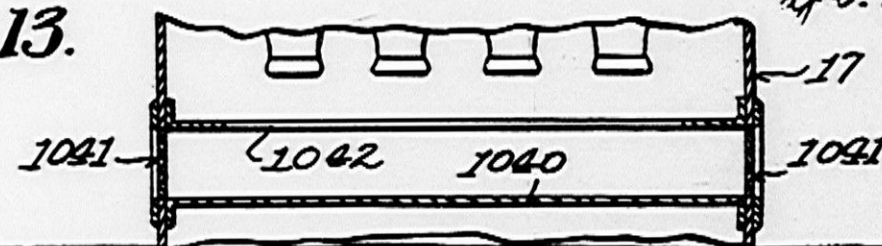


Fig. 13.



cancelled
Apr. 27, 1943

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Jesse W. J. J.
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Inventor

cancelled
Apr. 27, 1940

Fig. 4.

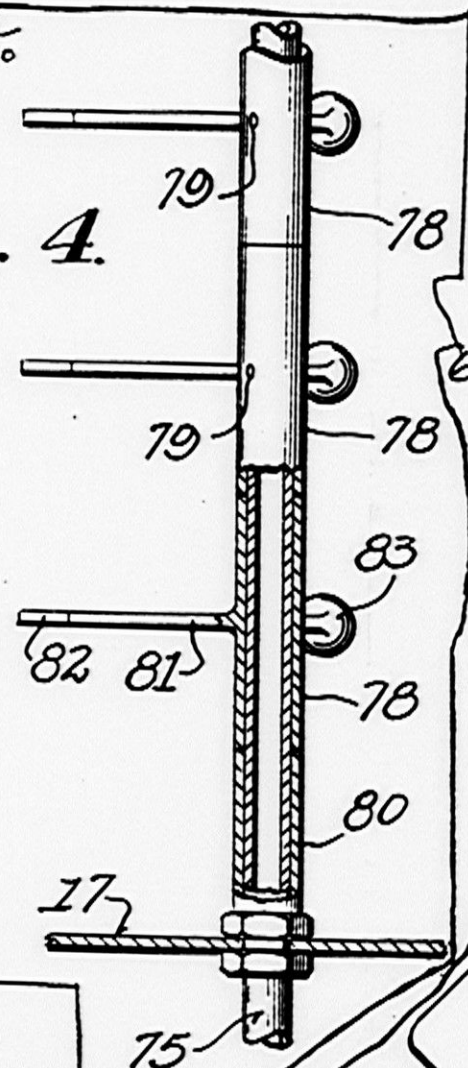


Fig. 2.

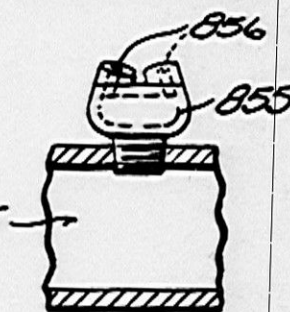
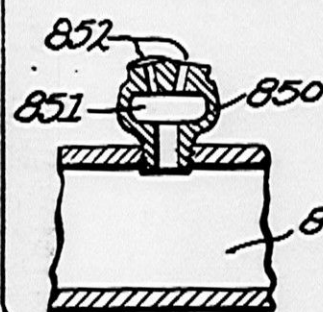
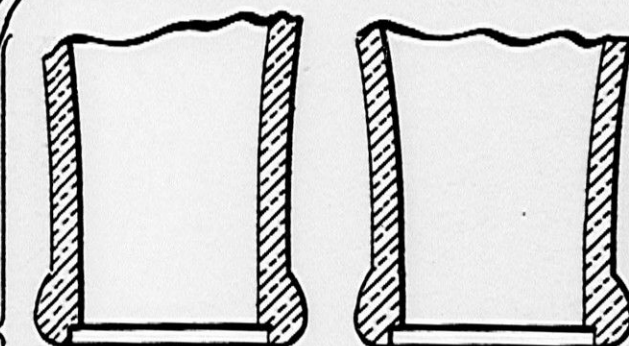
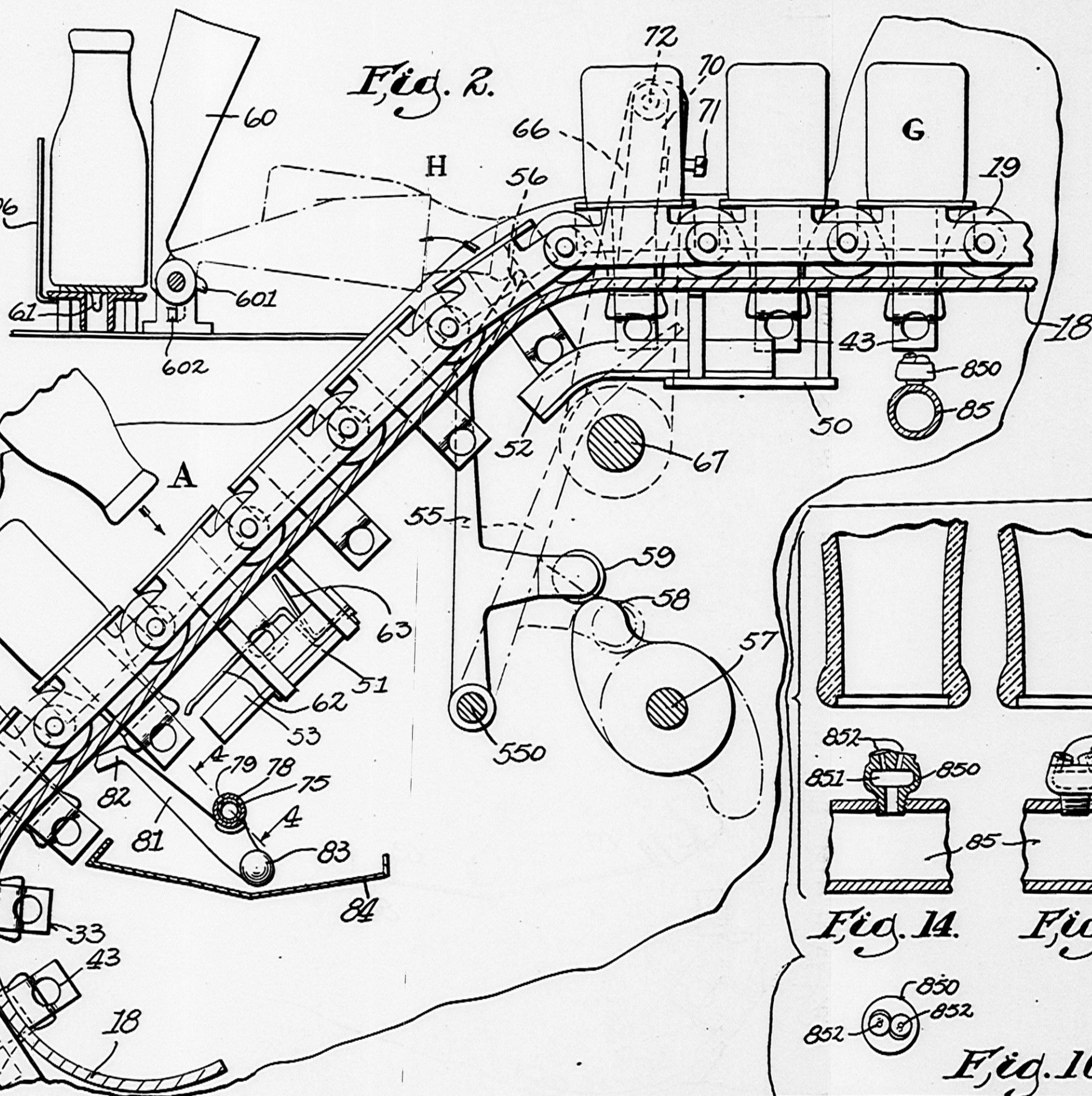


Fig. 14.

Fig. 15.



Fig. 16.

By
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Cancelled. Apr. 27, 1940.

Fig. 4.

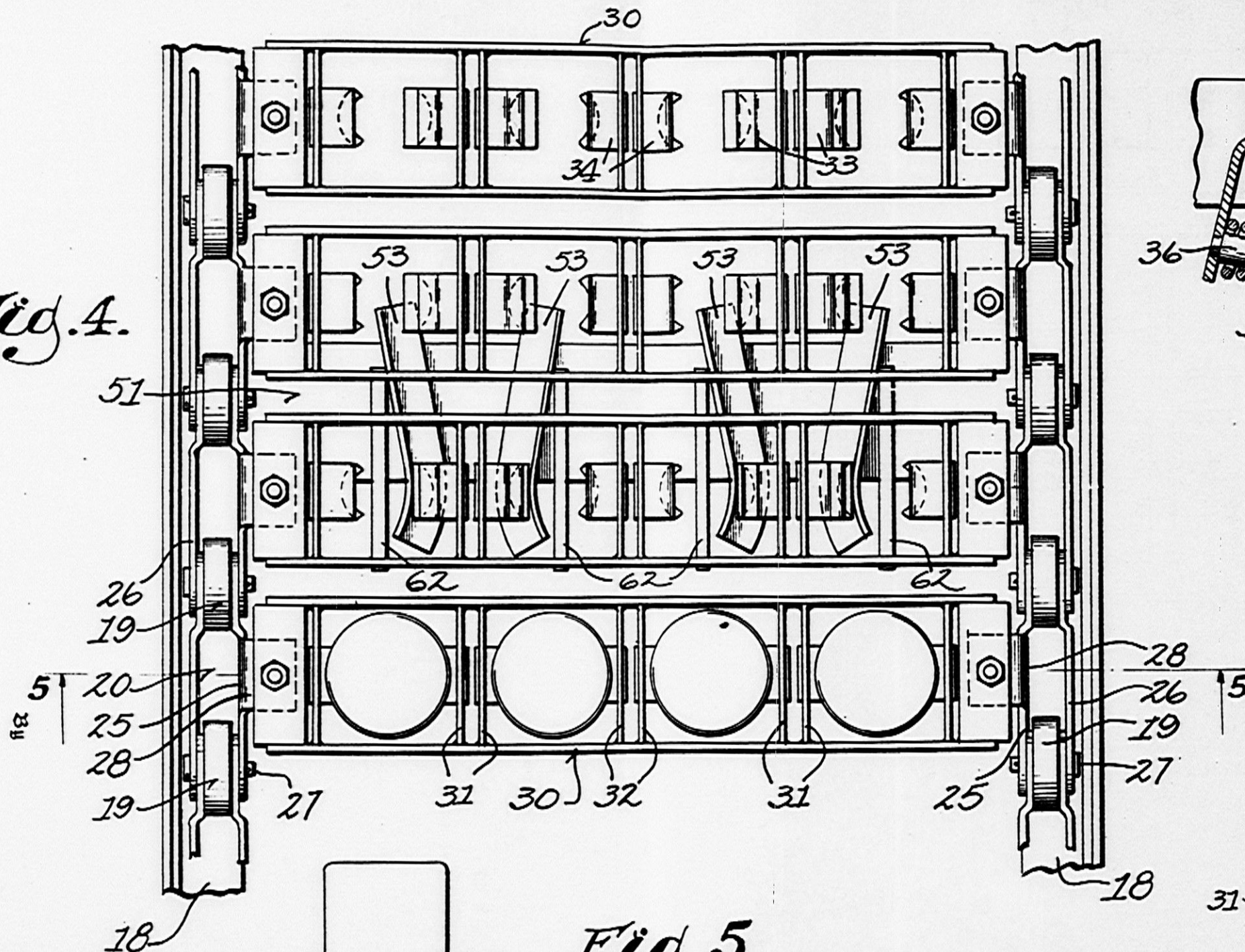


Fig. 5.

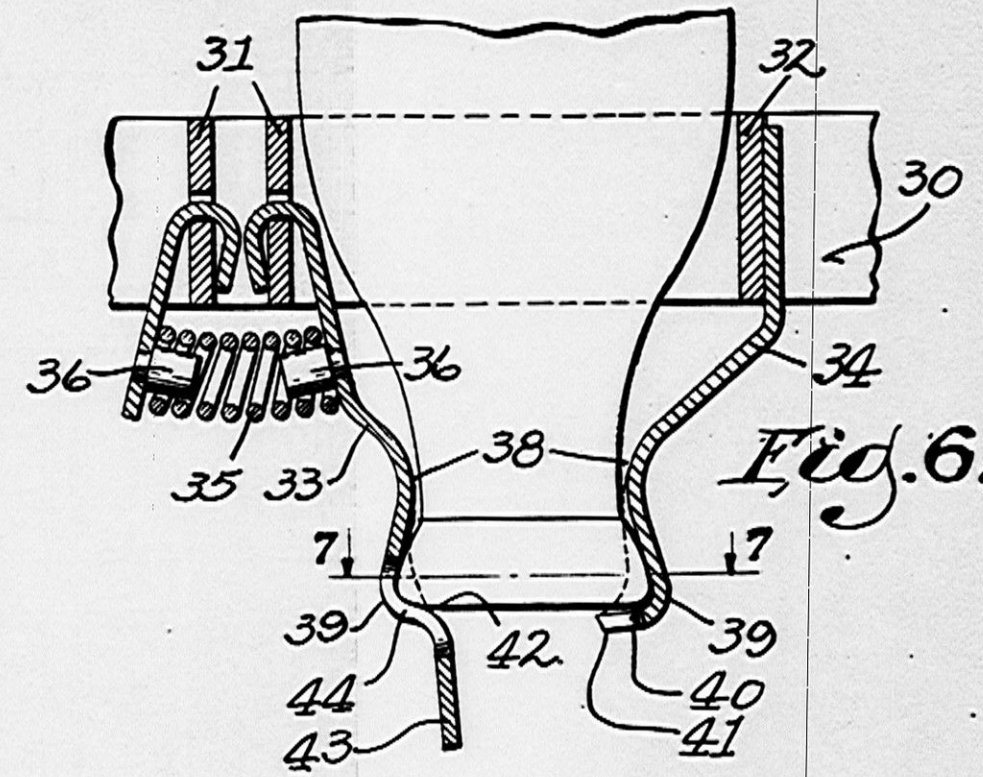
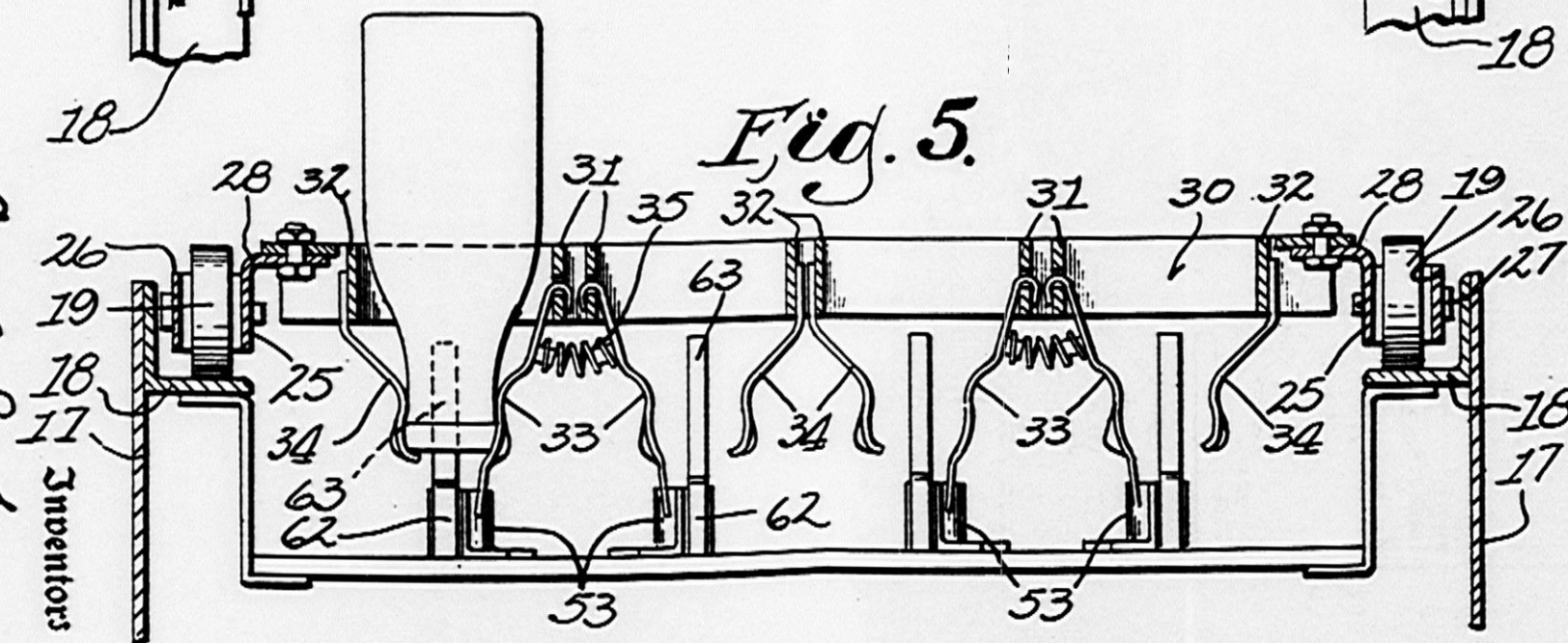


Fig. 6.

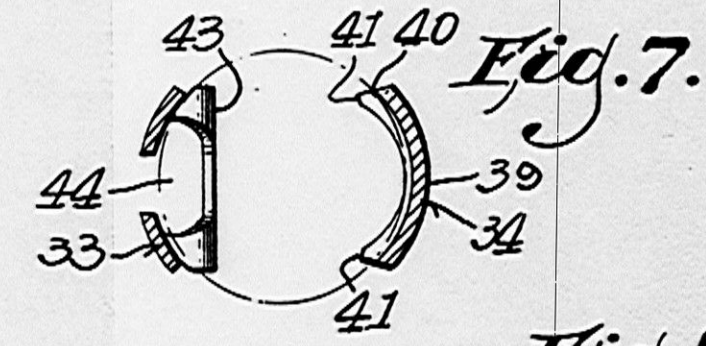


Fig. 7.

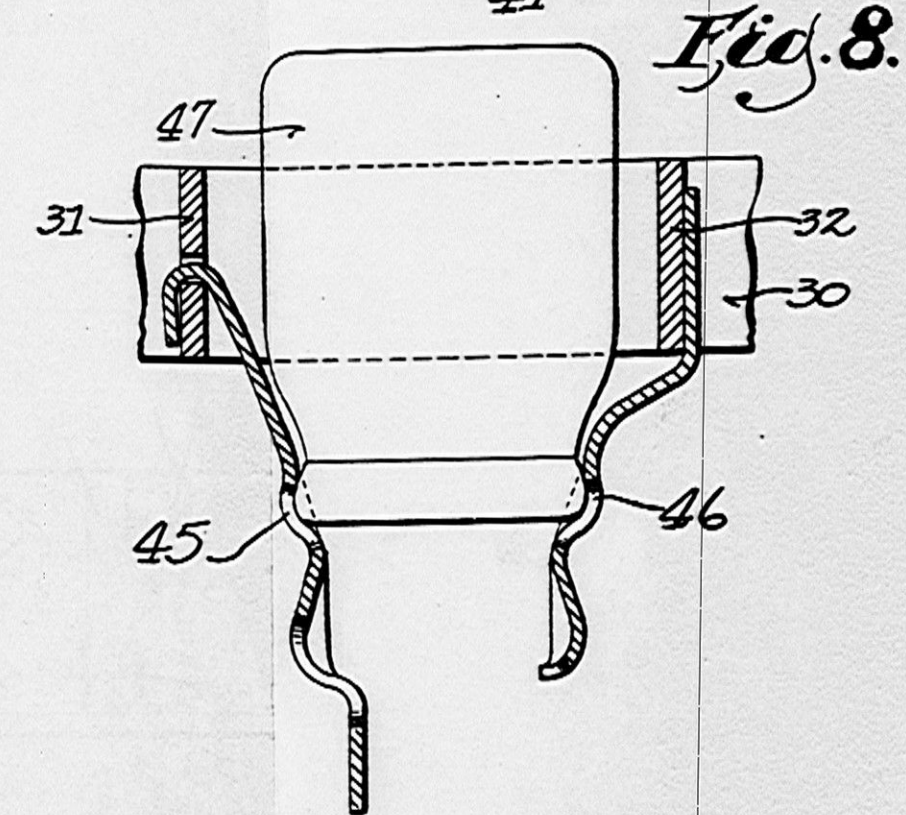


Fig. 8.

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James W. Jorg
Wheeler Wheeler & Wheeler
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Fig. 9.

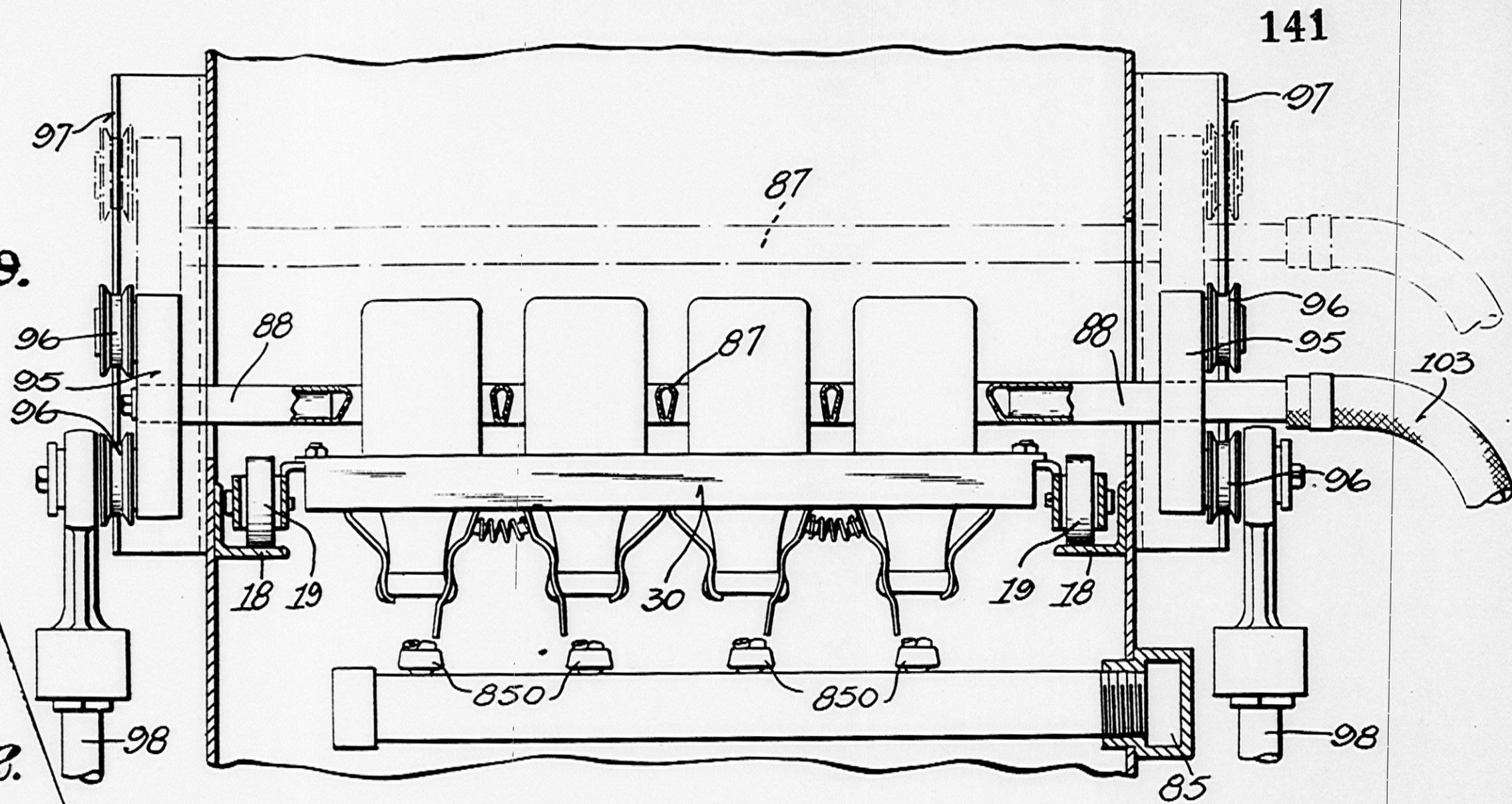
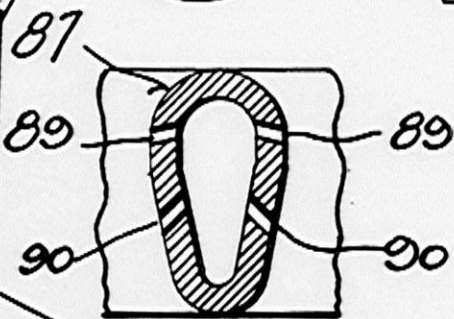


Fig. 12.



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Fig. 11.

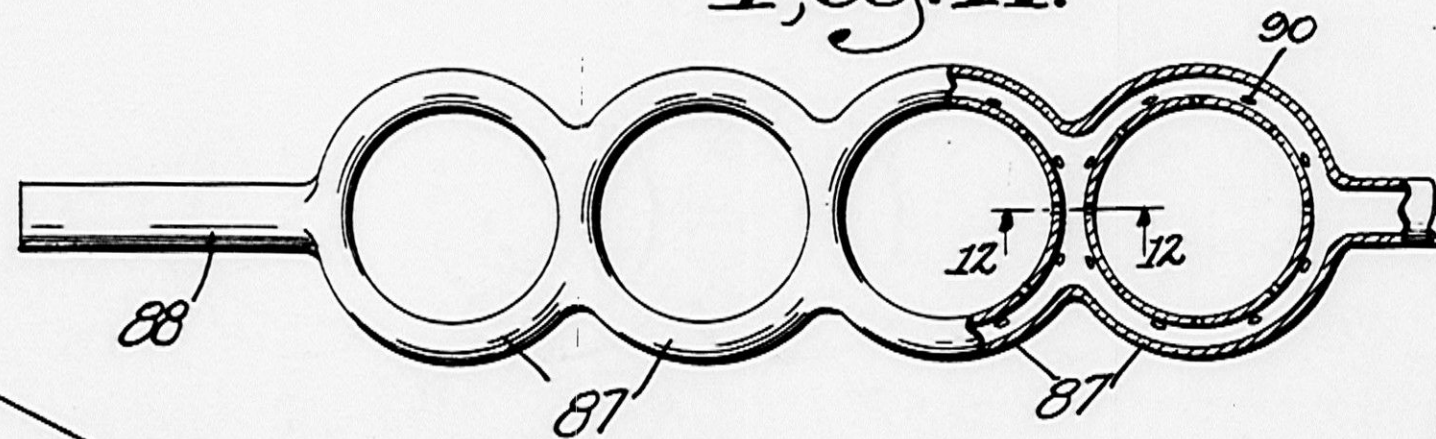
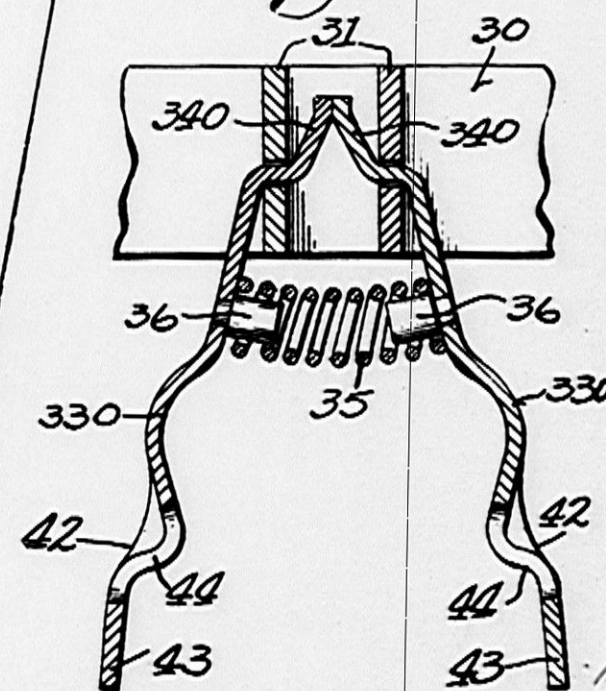


Fig. 10.



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EXAMINER'S STATEMENT.

Applicant has appealed from the final rejection of eleven claims number 1, 4 to 8, 15, 19, 52, 53, and 54.

Eight claims are now held allowable, number 10, 12, 13, 14, 16, 17, 18, and 39; claims 10, 16, and 39 having been rendered patentable by amendment after final rejection.

The references relied on are:

Goldman	1,012,843	Dec. 26, 1911
Wachs <i>et al.</i>	1,213,308	Jan. 23, 1917
Andersson	1,577,092	Mar. 16, 1926
Herold <i>et al.</i>	1,824,993	Sep. 29, 1931
Wynne <i>et al.</i>	1,934,250	Nov. 7, 1933
(Ger.) Ruprich	524,003	May 1, 1931

The rejected claims read as follows:

1. In a device of the character described, the combination with laterally spaced conveyor elements, of a series of rigid work supporting frames connected at their respective ends with said elements, each of said frames having side walls and transversely extending partition means defining work receiving openings, and bottle-gripping and supporting jaws carried by the respective frames in association with each of the respective openings for supporting work out of contact with said frame sides and partition means, one of the jaws associated with each of the openings being movable and each of the movable jaws being movable independently of the remaining movable jaws.

4. In a bottle washer, the combination with laterally spaced conveying elements, of a frame connected at its ends with said elements and having side bars and intervening partitions forming at least one opening, jaw members connected to the partitions at opposite sides of the opening and relatively and independently movable in a direction transverse with respect to the movement of said conveyor elements, said jaw members having bottle-engaging portions spaced from the frame formed to fit a bottle adjacent the mouth thereof, spring means urging one of said jaw members toward the other with sufficient force to enable said jaw members to comprise the sole support for a bottle in said opening to main-

tain said bottle normally out of contact with said frame and partitions.

5. In a bottle washer, the combination with laterally spaced conveying elements, of a frame connected at its ends with said elements and having side bars and intervening partitions forming at least one opening, jaw members connected with partitions at opposite sides of the opening and being relatively movable in a direction transverse with respect to the movement of said conveyor elements, said jaw members having bottle-engaging portions spaced from the frame formed to fit a bottle adjacent the mouth thereof, spring means urging one of said jaw members toward the other with sufficient force to enable said jaw members to comprise the sole support for a bottle in said opening to maintain said bottle normally out of contact with said frame and partitions, and means disposed in the path of movement of said spring-pressed jaw member for acting on the spring-pressed jaw member in opposition to the spring, whereby to separate the bottle-engaging portions of said jaw members.

6. In a bottle washing machine, the combination with a conveyor provided with a series of clamping means for positively retaining bottles, of means disposed in the path of clamping means advance for contacting and mechanically releasing successive clamping means, and means disposed in the path of advance of said clamping means when mechanically released for supporting bottles in proper position to be clamped by said clamping means.

7. In a bottle washing machine having bottle discharging and bottle receiving stations, of an endless conveyor adapted to move bottle-engaging clamping means successively past said stations, a series of bottle-engaging clamping means carried by the conveyor, cam means at such stations for contacting said clamping means and mechanically effecting a release of said clamping means for the discharge of one bottle and the reception of another, and means disposed in the path of advance of said clamping means when mechanically released for supporting bottles in clamping position.

8. In a bottle washing machine having discharging and loading stations, the combination with a conveyor operable

between said stations and provided with a series of bottle receiving openings, and jaws associated with each of the respective openings and relatively movable for clamping engagement upon bottles positioned in the respective openings, means for actuating the conveyor, means for maintaining said jaws normally in bottle-engaging positions, means in the path of movement of said jaws at said stations for mechanically acting upon said jaws to open said jaws for the release of a bottle to be discharged and the reception of another bottle to be loaded on said conveyor, and means disposed in the path of advance of said jaws 414 at said stations for supporting bottles in predetermined jaw-engaging position.

15. In a bottle washing machine, bottle-engaging jaws for supporting and rigidly positioning a bottle and formed to provide and maintain clearance between it and all portions of the surface of a bottle other than the bead, each of said jaws being concave in a manner complementary to the outer periphery of the bead of the bottle to be engaged thereby for clamping engagement about the bottle bead at points axially spaced from the bottle mouth, said concavity of the bead-engaging portion of the jaws also being such as to afford contact with the bead only at peripherally spaced points thereon while elsewhere affording and maintaining clearance therefrom.

19. In a bottle washing machine, the combination with a conveyor provided with a series of bottle carriers, of pairs of jaws associated with the respective carriers for bottle bead engagement, each of said pairs comprising a fixed and a movable jaw, means urging the movable jaws of the respective carriers normally to bottle-engaging position, means at a predetermined station in the path of carrier advance for mechanically retracting the movable jaws from said position, and means independent of said jaws at said station for temporarily positioning bottles interposed into the respective carriers pending the engagement of said bottles by said jaws.

52. A device of the character described comprising, in combination, laterally spaced conveyor elements, rigid unitary work supporting frames connected at their respective ends to said conveyor elements, each of said frames

carrying a work holding jaw adapted to co-act with a complementary work holding jaw carried by each of said frames respectively, one of said jaws being movable with respect to said frame and the other jaw, and means continually urging each of said movable jaws to the work supporting position and independent of the movement of any other movable jaws and with sufficient force to adapt said jaw for holding work in said work supporting jaws free of contact with said frames or conveyor elements.

53. In a bottle washing machine, the combination with a conveyor including a frame providing a bottle receiving opening, of a hinged jaw element connected to said frame to engage a bottle adjacent the mouth thereof, and a complementary fixed jaw element connected to said frame, said complementary jaws comprising the sole support for a bottle in said opening independently of other portions of the conveyor, said hinged jaw having spring means urging it toward the other jaw with sufficient force to retain the bottle and prevent relative movement between the bottle and said jaws while the bottle is supported by said jaws.

415 54. In a device of the character described, the combination with laterally spaced conveyor elements, of work carrying frames carried in alinement between said elements and providing work receiving openings, movable jaw members connected with the respective frames and relatively movable transversely with respect to the path of conveyor movement, complementary fixed jaw members carried by the frames which co-act with said relatively movable jaw members, all of said jaw members having work engaging portions spaced from said carrier frames for engagement with work in the respective openings when all of said jaws are in bottle-engaging position, springs acting on said relatively movable jaw members for the engagement thereof with the work, and separate cam devices operatively disposed in the path of advance of said movable jaws and at spaced points relative thereto for temporarily moving each of said movable jaw members away from its complementary fixed jaw member while at the work releasing position.

The invention claimed relates to a conveyor for moving

bottles through a washing mechanism, the conveyor comprising a pair of endless chains connected at intervals by carrier frames 30, Figs. 5 and 6. Each frame is composed of a pair of side bars and cross partitions 31 spaced to present bottle-receiving openings, each bottle being gripped between a fixed jaw 34 secured to a partition and a movable jaw 33 hingedly mounted on a partition and pressed by a spring 35 towards the fixed jaw. The jaw 33 is extended so as to engage, in a certain portion of its travel, with a cam rail 53 to open the jaw against the spring pressure, as to load or unload the gripper.

The bottles are supported solely by the gripping jaws, which are shaped to engage the bead and no other part, being given a doubly concave curvature to contact the bead at the lateral edges of each jaw, leaving a considerable portion of the bead surface exposed to cleaning fluid. Jaw portions 41, 42 prevent the bottle entering too far into the gripper, and a rail 62 (Fig. 6) at the loading station seems to have the same function.

Claim 1 was rejected on *Wynne et al.*, wherein is 416 shown (Fig. 5) the spaced chains 63, 64, transverse work-supporting frames 65 of inverted channel shape as seen in Fig. 6 where they are wrongly marked 63, each transverse frame having bottle-receiving openings provided with bottle-gripping jaws to hold each bottle out of contact with the frame structure. In the reference each jaw element 67 is a spring finger movable relatively to all other jaw elements. While the claim carries a slight intimation that one fixed and one movable jaw will cooperate in holding a bottle (as in the Ruprich patent) it is obviously intended to be broad enough (by omitting reference to the remaining "one" of the jaws as being fixed or movable) to cover the case where all jaws are independently movable relatively to each other and to the frame, exactly as in *Wynne et al.*

If there is any feature not perfectly anticipated it must be sought in the "transversely extending partition means", which phrase does not define any distinct improvement over that structure marked 66 in Fig. 6 of *Wynne et al.*, which structure is curved, not plane, and which extends transversely though not rectangularly. The claim does not

recite the actual limitation of partitions but employs the broader and more indefinite phrase "partition means". If applicant placed no reliance on this phrase for patentability there would be no objection to it; but if the whole novelty here is based on the presence of "partition means" it is not pointed out with the required particularity. There is no statement that the jaws are pivoted to, or fixed to the "partitions", not distinctly claimed; nor do the partitions have any other useful or distinctive function set forth. It is true they might add some stiffness to the work-supporting frames; but the answer to that is that there would
 417 be no patentable invention in adding transverse partitions or braces in the channels of Wynne *et al.* to increase the stiffness of the thin-walled channels, without affecting the mode of operation or result. In this connection attention is called to Figs. 2 and 7 of the Herold *et al.* patent as showing carrying frames with side bars and partitions to form bottle receiving pockets, and to the Goldman patent in which partitions 12 are placed transversely between the cross members 11 to form bottle receiving pockets.

In the art of washing bottles it is common to support the bottles so that almost the entire surface is exposed to wash water, *i. e.*, out of contact with frame structure; but this case is not directed to the washing art. In the Wynne *et al.* patent the spring fingers retain the bottles (page 4, lines 56, 57, 80-83) out of contact with frame structure.

Claim 4 was rejected on the patent to Wachs *et al.* which shows in Figs. 6 and 7 one chain with laterally projecting frame 18, 19 providing one opening for a bottle. (If more openings were to be provided it would be conventional to use the parallel second chain as in Fig. 5 of Wynne *et al.*) At this opening two movable jaw members 25 are pivotally mounted to move transversely to the direction of travel and are urged together by spring 27 to engage and hold a bottle at its neck portion, see Fig. 5. Here the only difference seems to be in the frame defined as having side bars and partitions, which results in rectangular openings; whereas the patent shows, as in Fig. 5, a one-piece frame of circular form having a round (conical) opening. The difference between the round and rectangular form of frame is looked

upon as a matter of design, not of patentable invention. To make the jaw-actuating spring strong enough to hold the bottle by the jaws alone is deemed a matter of degree 418 and adjustment, affected by the size of the article.

Claim 4 was also rejected on Ruprich who refers to the endless chains for moving the bottle holders, though he did not show the chains. His clamps comprise a fixed jaw *b* and a relatively (and therefore independently) movable jaw *i*, movable transversely to conveyor travel and spring urged to clamp the neck of a bottle. Fig. 1 shows rather clearly that the bottle does not contact the frame; but even if that showing is not perfectly and explicitly supported by work description, no invention is found in relying on the jaw grip for sole support.

Claim 5 was rejected as claim 4, to which it is similar; the added clause as to a cam means disposed in the path of movement being anticipated by the cam 42, 43 in Figs. 6 and 7 of Wachs *et al.*, which cooperates with depending portions of jaw member 25, or cam 31 in Figs. 3 and 4 cooperating with downward extensions 29 of the jaw members; also by the cams of Ruprich which cooperate with projecting portions of the element which constitutes the jaw member.

Claims 6, 7, 8, which have been amended after final rejection to bring out a point now indicated to be a prime object of the invention, were rejected on Wachs *et al.* or on Ruprich, which references fully meet the limitations as to conveying, clamping, and clamp-releasing structure. The added feature is the "means" to support the bottles when they are placed in the open clamps ready to be gripped by the clamps, this function being presumably served by member 62, which locates the bottle so that the grip will come at the correct points. In Ruprich the same function is attained by the portion *c* of the fixed jaw which seems to meet the limitation even better than the applicants' structure where rail 62 is not "in the path" of the clamps

419 (does not contact them) whereas Ruprich's part *c*, being part of a clamp is in the path of advance of the clamps. The claims merely intimate, rather than define, that the means is mounted at the station and on the machine frame, rather than being mounted on the conveyor as in

Ruprich. Even claim 8 permits the reading of "means mounted in the path of advance of said jaws" when the jaws are "at said stations" for supporting the bottles. If the supporting means claimed is the means 41, 42 of applicants, it is well met by means *c* of Ruprich.

Wachs *et al.* probably relied on the socket 19 for preventing the bottle moving too far downwardly when loaded into the open clamps, Fig. 4; but use of a stationary rail mounted on the machine frame at the loading station to support and position the bottle until the clamps engage it is not seen to involve the work of the inventor.

Claim 15 was rejected on Andersson or Herold *et al.* The claim does not require relatively movable or spring-pressed jaws, but merely a plurality of supporting jaws shaped to engage the outer periphery of the bead of a bottle at spaced points and to contact the bottle at no other points. Andersson shows jaws which evidently engage the bead of a bottle at the outer portion so that the bottle-mouths are left exposed to washing fluid. No other contact or support for the bottle is shown, and apparently none other is needed; certainly not under favorable circumstances. The patent does not show in minute detail the exact shape of the contacting portion of a jaw, but it is the Examiner's position that for such type of support there would be no inventive genius exercised if the jaw were shaped to fit the bead at the small areas of contact. It is quite commonly understood that in handling glass articles it is advisable not to concentrate pressure on a mere point but to spread it over an appreciable area; and nothing more than 420 the act of the skilled workman (or novice) is seen in developing this idea as applied to Andersson.

The Examiner has previously stated on the record that since "it is old in the bottle cleaning art to hold the bottle by the body, or the neck, or the bead, no patentable invention is found in shaping the jaw surface to the shape or the part to be gripped." If applicants are not satisfied as to the prior art showing of jaws shaped to fit the bead and no other part while the bottle is being sterilized, they are referred to the Lozowsky patent 1,789,684, for illustration.

Herold *et al.* show in Fig. 1 a bottle supported only at

the bead, and the support could be made as "jaws" instead of a single body, comparably with Andersson.

Claim 19 was rejected on Ruprich who has for each bottle a fixed jaw and a movable jaw, the latter retracted at the station by a cam device. The claim scarcely distinguishes by noting that the jaws are for "bottle bead engagement" for one of Ruprich's jaw elements does or will engage the bead of a normal bottle, and (as above noted) it is old to hold the bottle by the bead for cleaning. Ruprich does not show the rail means at the station for supporting the bottle as the clamp is about to close, but that detail is not thought to involve patentable invention since Ruprich has an equivalent means *c* to accomplish the same result.

Claim 52 was rejected on Ruprich who shows a carrier element capable of holding four bottles; but to omit the jaws of three holders would evidently not be an inventive act (see his second paragraph for single gripper), and in that case each gripper would consist of one fixed jaw and one movable jaw, the latter urged by its own individual spring. The movable jaw presses the bottle against 421 the fixed jaw and holds it tightly (lines 70-72 of the patent). The drawing shows the bottle out of contact with the frame, and no inventive genius is seen in emphasizing the desirability of this type of support by jaw members only. The Ruprich carriers will of course be propelled by an endless chain conveyor as proposed in the first paragraph. The amount of spring tension is a matter of degree.

Claims 53 and 54 have been materially amended after rejection and are now held unpatentable over Ruprich. Claim 53 apparently relies only on the limitation to a "hinged" movable jaw, whereas the movable jaw device of Ruprich is slidable and thereby provides for holding several bottles in one unit as an improvement over the single bottle holders discarded by him. Where a single bottle is to be held by a spring-pressed jaw, it is deemed a matter of choice or design whether the jaw is hinged or rectilinearly slidable, both being old. Wynne *et al.* show in Fig. 2 a gripper jaw hinged to a body and pressed by a spring. Wachs *et al.* also show the hinged type of gripper, each gripper having its individual spring so that it will function properly even if an adjacent gripper holds an abnormally large bottle.

Claim 54 would require the old type of individual bottle-conveying units, discarded by Ruprich in favor of multiple holders. The patentee shows the cam device for retracting the movable jaws for loading or unloading.

Applicants' seeming assertion, indicated by the remarks and arguments, that no claim should be rejected unless fully anticipated by a single reference, is deemed unsound; for innumerable changes in the patented devices can be made in the ordinary work of the designer, without exercise of the inventive faculty.

Respectfully submitted,

A. E. Dornethy,
Examiner, Div. 4.

Norman E. H. Deletzke,
c/o Cherry-Burrell Corp.,
427 West Randolph St.,
Chicago, Ill.

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IN THE
UNITED STATES PATENT OFFICE.

BEFORE THE BOARD OF APPEALS.

Ex parte Carl L. Trier and Jesse W. Fogg.

Application for Patent filed May 6, 1937,
Serial No. 141,084. Bottle Washing Machinery.

Mr. Norman E. H. Deletzke for applicants.

This is an appeal from the action of the examiner finally rejecting claims 1, 4 to 8, inclusive, 15, 19, 52, 53 and 54.

Claim 8 is illustrative and reads as follows:

8. In a bottle washing machine having discharging and loading stations, the combination with a conveyor operable between said stations and provided with a series of bottle

receiving openings, and jaws associated with each of the respective openings and relatively movable for clamping engagement upon bottles positioned in the respective openings, means for actuating the conveyor, means for maintaining said jaws normally in bottle-engaging positions, means in the path of movement of said jaws at said stations for mechanically acting upon said jaws to open said jaws for the release of a bottle to be discharged and the reception of another bottle to be loaded on said conveyor, and means disposed in the path of advance of said jaws at said stations for supporting bottles in predetermined jaw-engaging position.

423 The references relied upon are:

Goldman,	1,012,843	Dec. 26, 1911
Wachs <i>et al.</i>	1,213,308	Jan. 23, 1917
Anderson	1,577,092	Mar. 16, 1926
Ruprich (Ger.)	524,003	May 1, 1931
Herold <i>et al.</i>	1,824,993	Sep. 29, 1931
Wynne <i>et al.</i>	1,934,250	Nov. 7, 1933

Applicants contend that claim 1 is allowable over Wynne *et al.*, Herold *et al.* and Goldman since none of them shows bottle gripping and supporting jaws for supporting the bottles out of contact with the frames. This position amounts to a contention that the jaws of Wynne *et al.* are not strong enough or properly arranged for this purpose. We do not believe the degree of strength of applicants' jaws is a patentable departure from the prior art. The claim states no structural arrangement which would prevent the bottles touching the frame and so far as structure is concerned, claim 1 does not define invention over Wynne *et al.* Herold *et al.* show straight partitions in Fig. 2 while Wynne *et al.* have curved transverse partitions 66. Goldman shows partitions 12.

As to claim 4, applicants contend that Wachs *et al.* do not grip the bottle about the mouth. The claim states that bottle-engaging portions are formed to fit the bottle *adjacent* the mouth and Wachs *et al.* show the bottle in engagement with the frame, Fig. 5 shows the bottle spaced from the frame. The claim indicates that applicants rely on the strength of the springs but we do not consider this feature as structurally differentiating from Wachs *et al.*

Claim 4 was also rejected on Ruprich as showing a jaw grip much like applicants' grip. However, Ruprich does not anticipate this claim.

424 Claim 5 was rejected like Claim 4 but we do not see how the claim can be read on Wynne *et al.*, Herold *et al.* or Goldman. Reference is also made to Wachs *et al.* and Ruprich in rejecting this claim. Neither of these patents shows the frame and partition structure in the combination claimed.

As to claim 6, Ruprich shows the means for mechanically releasing successive clamping means and we believe it obvious that Ruprich's frames are or could be mounted on a conveyor. In Ruprich also the support *c* is in the path of advance of the clamps *b* and *i*. The claim is broadly worded and does not definitely state that the auxiliary bottle supports are located at a point in advance of the location of the mechanical releasing means.

Claim 7 is similar to claim 6 in terminology and scope, but claim 8 indicates that the auxiliary supports are at the loading station.

As to claim 15, we find nothing in Andersson or the newly cited Lozowsky patent to warrant the examiner's conclusion that the claim does not state inventive subject matter. Neither of these patents suggests the combination of claim 15.

As to claim 19, the examiner relies on element *c* of Ruprich as the auxiliary bottle positioning element but this element is not independent of the jaws as stated in claim 19.

Claim 52 was rejected on Ruprich and we believe properly rejected, since it is obvious to use hinged jaws in place of the sliding jaws of Ruprich. Wynne *et al.* show hinged jaws at Figs. 2 and 9 and Wachs *et al.* have 425 hinged jaws 25.

Claim 53 refers to features which we have previously discussed and does not, in our opinion, definitely and patentably distinguish from Ruprich in details which can be said to amount to invention.

Claim 54 is a very detailed claim including separate cam devices arranged as stated in the claim. No reference shows or suggests such an arrangement.

The decision of the examiner is affirmed as to claims 1, 4, 6, 7, 52 and 53, but is reversed as to claims 5, 8, 15, 19 and 54.

W. L. Redrow,
Examiner-in-Chief,
E. T. Morgan,
Examiner-in-Chief,
F. J. Porter,
Examiner-in-Chief,
Board of Appeals.

January 25, 1941.
Mr. Norman E. H. Deletzke,
c/o Cherry-Burrell Corp.,
427 West Randolph St.,
Chicago, Illinois.

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FINDINGS OF FACT.

1. This is an action under Section 4915 R. S. (U. S. C., title 35, sec. 63) in which plaintiff, the assignee of the patent application No. 141,084, of Carl L. Trier and Jesse W. Fogg, relating to Bottle Washing Machinery, seeks to have the Court authorize the defendant, the Commissioner of Patents, to issue to plaintiff a patent on said application containing claims 1, 4, 6, 7 and 52 thereof, additional claims in amended form as set out in the complaint, and such other claims as upon hearing the Court may find patentable. Claims 5, 8, 10, 12 to 19, inclusive, 39, 54, 55 and 56 of said application were allowed by defendant and are not in issue in this action.

2. Claims 1, 4, 6, 7, 52 and 53, which are set out in paragraph 4 of the Complaint, are the only claims at bar that were refused on the merits by the Board of Appeals of the Patent Office.

3. Claims 1, 4, 6, 7 and 52, in the amended form set out in paragraph 5 of the Complaint, were presented by plaintiff after the decision of the Board of Appeals 121 had been rendered. These claims were refused entry by the Primary Examiner of the Patent Office in accordance with the Rules of Practice of that Office and

later in response to a petition by plaintiff the Board of Appeals refused to consider them.

4. Claim 57, as set out in paragraph 6 of the Complaint, was not presented to the Patent Office until after the decision of the Board of Appeals had been rendered. This claim was refused entry by the Primary Examiner of the Patent Office in accordance with the Rules of Practice of that Office. This claim was not considered by the Board of Appeals.

5. The application discloses a bottle washing machine comprising parallel, laterally spaced, endless conveyor chains which connect between them a series of transversely arranged, rigid frames pivoted to the chains and having partitions which, together with the frames, form bottle receiving openings for receiving individual bottles. Each compartment has a separate pair of clamps for gripping and rigidly and independently supporting each bottle adjacent the mouth thereof and fixedly holding each bottle perpendicular to the path of travel of the conveyor without contacting any bottle at any point against the frames or the partitions. Each of the pairs of bottle gripping and supporting clamps is provided with at least one spring-biased, movable gripping jaw. Each movable bottle gripping jaw within the bottle washer is independently movable with respect to any other bottle gripping jaw. At one location in the bottle washing machine there is a station where the bottles are ejected from the bottle gripping jaws and receiving openings and at this station there are provided stationary cams which engage a portion of the movable bottle gripping clamps to open the clamps while passing through the bottle unloading station 122 and hold them open for a short interval of time to allow the ejection of the bottles. At another location called the loading station where bottles are inserted into the bottle receiving openings for support by the bottle gripping jaws, similar cams release the bottle gripping clamps to open the jaws for a short interval of time to allow the insertion of bottles. At this loading station at which the bottle gripping clamps are released, stationary and independent means rigidly secured to the bottle washer casing and independent of the conveyors are provided for supporting the bottles in proper bottle gripping position

until the bottle gripping clamps securely grip the bottles adjacent the mouths thereof after the clamps have been released from the clamp opening cams.

6. The patent to Goldman, No. 1,021,843, dated December 26, 1911, discloses a bottle washer in which a pair of spaced, parallel, endless conveyor chains carries between them a series of transversely extending frames having partitions forming bottle holding compartments. The compartments are constricted at one end and there is provided a movable gate at the other end thereof to loosely retain the bottles in the compartments. The bottles are not gripped and are not rigidly supported in the compartments. Means are provided for opening the gates automatically at loading and unloading stations.

7. The patent to Wachs and Gallup, No. 1,213,308, dated January 23, 1917, discloses a bottle holding and conveying machine for use in connection with a bottle washer. The machine includes an endless chain conveyor having bottle holding brackets extending from each side thereof. Each bracket has an opening of considerable longitudinal extent and in part conically flared to 123 guide and receive the neck portion of the bottle. At the end of the opening there is a pair of clamps which are spring pressed to closed position to engage the bottle just below the head thereof to hold the bottles securely. Each clamp of the pair is movable independently of the other. The machine is provided with stationary cams at a loading and unloading station to contact with portions of the clamps for holding them open at the time the bottle holding bracket passes the station.

8. The Anderson patent, No. 1,577,092, dated March 16, 1926, relates to a bottle holder for a bottle washing machine. The holder consists of a plurality of rigid, fixed arms extending longitudinally of the bottle and provided at their lower free ends with inwardly extending hook-like elements to contact with the bead of the bottle at the mouth thereof. The bottles are only loosely confined by the holders.

9. The patent to Harold and Dawson, No. 1,824,993, dated September 29, 1931, shows a bottle washer in which there is provided a bottle carrier consisting of holders divided by partitions into bottle receiving compartments.

The holders are carried by chains at either side thereof. The bottoms of the compartments are constricted to engage the beads of the bottles at the mouths of the bottles. The bottles are only loosely confined by the holders.

10. The Wynne and Meyer patent, No. 1,934,250, dated November 7, 1933, discloses a bottle washing machine in which parallel endless conveyor chains carry, between them, a series of transversely extending bottle-holding frames. Each frame has a plurality of bottle receiving and holding compartments. The compartments have spring fingers for engagement with the necks of the bottles.

124 | 11. The Lozowsky patent, No. 1,789,684, of January 20, 1931, shows a bottle sterilizing apparatus for sterilizing a single bottle in which the bottle is held by spring fingers engaging around the bead at the mouth of the bottle. These fingers must be forced open by the forceful and manual insertion of the mouth end of the bottle into proper bottle gripping position.

12. The German patent to Ruprich, No. 524,003, of 1929, relates to a bottle conveyor for a bottle washing machine in which holders for a plurality of bottles are moved along by endless conveying means such as chains. The holder consists of a plate having openings to receive the bottles in inverted position, and clamps below the plate for engaging the necks and mouths of the bottles. Each clamp consists of a spring pressed part for engaging the neck of the bottle and a second part rigidly fastened to the bottom of the plate, for engagement with the neck of the bottle and having a ledge on which the mouth of the bottle rests. The ledge serves to support the bottle in bottle clamping position while the clamp is released. Stationary cams are provided at a loading and unloading station for moving the spring pressed parts of the clamps to open position when the holder reaches the station.

13. It was not invention to substitute for the transversely extending bottle carrier 65 of the Wynne and Meyer patent, a carrier in the form of a partitioned frame in view of either the Goldman patent or the Herold and Dawson patent.

14. It was not invention to modify the structure shown in the Wachs and Gallup patent by providing two

125 spaced conveyor chains instead of one, and by making the bottle carrier in the form of a partitioned frame in view of either the Goldman patent or the Herold and Dawson patent.

15. It was not invention to provide means for supporting the bottles in proper position for engagement by the clamping means in view of the showing of such means in the Ruprich patent.

16. It was not invention to make the spring which operates the jaws of the clamps of the Wachs and Gallup patent of sufficient strength to hold the bottle out of contact with other parts of the device, and to constitute the sole support of the bottle.

17. Claims 1, 4, 6, 7, 52 and 53 as set out in paragraph 4 of the complaint are unpatentable over the prior art.

CONCLUSIONS OF LAW.

1. Claims 1, 4, 6, 7 and 52 in the amended form set out in paragraph 5 of the complaint and claim 57 which is set out in paragraph 6 of the complaint were presented in the Patent Office too late to entitle plaintiff to an action on the merits thereof and this Court does not have jurisdiction in an action under Section 4915 R. S. to rule on the patentability of said claims.

2. Plaintiff is not entitled to receive a patent containing any of claims 1, 4, 6, 7, 52 and 53 as set out in paragraph 4 of the Complaint.

3. The Complaint should be dismissed, with costs against plaintiff.

David W. O'Donoghue,
Justice.

January 14, 1943.

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JUDGMENT.

This action came on to be heard at this term and thereupon upon consideration thereof, it is this 14th day of January, 1943,

Adjudged that the complaint be and it is hereby dismissed, with costs against the plaintiff.

Daniel W. O'Donoghue,
Justice.

Approved as to Form:

James H. Littlehales,
Attorney for Plaintiff.

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NOTICE OF APPEAL.

Notice Is Hereby Given that Cherry-Burrell Corporation, plaintiff named above, hereby appeals to the United States Court of Appeals for the District of Columbia from the decree entered herein on January 14, 1943, dismissing the complaint.

Norman E. H. Deletzke,
James H. Littlehales,
Counsel for Plaintiff.

James H. Littlehales,
1240 Munsey Building,
Washington, D. C.

Mail copy to

Solicitor, United States Patent Office,
Washington, D. C.

132 DESIGNATION OF CONTENTS OF RECORD
ON APPEAL.

Appellant, Cherry-Burrell Corporation, designates the following portion of the record, proceedings and evidence to be included in the record on appeal from the judgment entered herein January 14, 1943:

1. Complaint.
2. Answer to complaint.

3. Plaintiff's proposed findings of fact and conclusions of law.

4. Plaintiff's comments on plaintiff's proposed findings of fact and conclusions of law and on the proposed findings of fact and conclusions of law submitted by defendant.

5. Findings of fact and conclusions of law entered by Justice O'Donoghue January 14, 1943.

6. Judgment entered by Justice O'Donoghue January 14, 1943.

133 7. Reporter's transcript of the testimony and proceedings at trial.

8. Certification as to identity of copies of reporter's transcript of the testimony and proceedings at trial.

9. Notice of appeal.

10. This designation (without caption).

11. Statement of points to be relied upon in the appeal.

12. The following exhibits introduced by the plaintiff:

PHYSICAL EXHIBITS.

(a) *Plaintiff's Exhibit No. 1*—Publication entitled "Baltimore Soaker Type Bottle Washer" of Cherry-Burrell.

(b) *Plaintiff's Exhibit No. 2*—Certified copy of Trier and Fogg application Serial No. 141,084, filed May 6, 1937, for Bottle Washing Machinery.

DOCUMENTARY EXHIBITS.

(a) *Plaintiff's Exhibit No. 3*—Three sheets from "Baltimore Soaker Bottle Washer Sales Manual."

(b) *Plaintiff's Exhibit No. 4*—Sketch drawn by witness Fogg.

(c) *Plaintiff's Exhibit No. 5*—Dostal Patent No. 2,210,529.

13. The following exhibit introduced by defendant:

EXHIBIT No. 1.

- (a) Goldman Patent No. 1,012,843.
- (b) Wachs, *et al.*, Patent No. 1,213,308.
- (c) Anderson Patent No. 1,577,092.
- (d) Herold, *et al.*, Patent No. 1,824,993.
- (e) Wynne, *et al.*, Patent No. 1,934,250.
- (f) Lozowsky Patent No. 1,789,684.
- 134 (g) Ruprich German Patent No. 524,003.
- (h) Print of drawings.
- (i) Examiner's Statement.
- (j) Decision of the Board of Appeals.
- 14. Order of Court permitting original exhibits to be filed in Appeals Court in lieu of copies thereof.

Norman E. H. Deletzke,
James H. Littlehales,
Counsel for Plaintiff.

James H. Littlehales,
1240 Munsey Building,
Washington, D. C.

Service of the above designation and receipt of a copy thereof acknowledged and designation approved this 11th day of February, 1943.

W. W. Cochran,
Solicitor, United States Patent Office.

(Endorsed) Filed Feb. 11, 1943. Charles E. Stewart,
Clerk.

128 STATEMENT OF POINTS TO BE RELIED
UPON IN THE APPEAL.

1. The Court erred in dismissing the complaint herein and in entering the judgment dated January 14, 1943.

2. The Court erred in not finding that the plaintiff is entitled to a patent containing Claims 1, 4, 6, 7, 52 and 53, as set out in paragraph 4 of the complaint and as set forth in the application for United States Letters Patent, Serial No. 141,084, filed May 6, 1937.

3. The Court erred in not finding that the plaintiff is

entitled to a patent containing Claims 1, 4, 6, 7 and 52 in the amended form set out in paragraph 5 of the complaint and Claim 57 which is set out in paragraph 6 of the complaint.

4. The Court erred in finding that Claims 1, 4, 6, 7 and 52, in the amended form set out in paragraph 5 of the complaint, and Claim 57, which is set out in paragraph 6 of the complaint, were presented to the Patent Office too late to entitle plaintiff to an action on the merits thereof, and that the Court did not have jurisdiction in an action 129 under Section 4915 of the Revised Statutes to rule on the patentability of said claims.

5. The Court erred in not finding that the Wachs, *et al.*, patent No. 1,213,308, dated January 23, 1937, is limited to the combination of bottle gripping jaws or bottle gripping clamps inter-coacting with a fixed bottle supporting pocket to jointly support a bottle while the same passes through the various washing operations of a bottle washer as disclosed in said patent.

6. The Court erred in not finding that the Wynne, *et al.*, patent No. 1,934,250, dated November 7, 1933, is limited to a device for supporting bottles in which the bottles are not gripped about the mouths or adjacent the mouths thereof; in which the bottles are loosely held in the bottle confining pockets; in which the only purpose for the provision of resilient elements in the bottle confining pockets was to permit the expulsion of the bottles from the pockets by forcing the same completely through the pockets; and in which auxiliary bottle supporting rails were supplied to support and maintain the bottles within confining pockets during a portion of the travel of bottles through the washer as disclosed in said patent.

7. The Court erred in not finding that the German patent to Ruprich, No. 524,003 of 1929, is limited to a bottle supporting device carried on a conveyor in which the relatively movable clamps for engaging the bottles must be moved by hand to open the same, in which no means is provided in the path of the travel of the bottle gripping jaws to open the same to enable the loading or unloading of bottles into or out of the bottle supporting device, and in which no means is provided in the path of the travel of the bottle gripping jaws to support bottles in proper posi-

tion for engagement by the clamping means at a bottle supply station.

130 8. The Court erred in concluding that it was not invention to provide means for supporting bottles in proper position for engagement by the clamping means in view of the showing of such means in the Ruprich patent.

9. The Court erred in concluding that it was not invention to make the springs which operate the jaws of the clamps of the Wachs, *et al.*, patent of sufficient strength to hold the bottles out of contact with other parts of the device and to constitute the sole support of the bottles.

10. The Court erred in concluding that Claims 1, 4, 6, 7, 52 and 53, as set out in paragraph 4 of the complaint, are unpatentable over the prior art.

Norman E. H. Deletzke,
James H. Littlehales,
Counsel for Plaintiff.

James H. Littlehales,
1240 Munsey Building,
Washington, D. C.

Service of copy of the above statement of points acknowledged this 11th day of Feb. 1943.

W. W. Cochran,
Solicitor, United States Patent Office.

(Endorsed) Filed Feb. 11, 1943. Charles E. Stewart,
Clerk.

STIPULATION.

It is hereby stipulated and agreed by and between counsel for the parties hereto, the Honorable Court consenting, that the time for the filing of Appellant's brief in the above entitled matter be extended to and including July 2, 1943, and that the time for the filing of appellee's brief be correspondingly extended.

One reason for this extension of time is that appellant's attorney has just been advised by the Commissioner of Patents that the supply of copies of certain patents ordered by appellant's attorney for inclusion in the appendix to appellant's brief has been exhausted, that said patents have been ordered reprinted, and that it will re-

quire a period of not less than five (5) weeks to reprint said copies of said patents.

A further reason for this extension of time is that appellant's attorney is at the present time and will for several weeks be busily engaged in the preparation and negotiation of contracts pertaining to the manufacture of war machinery by the appellant and in the preparation for final hearing before the United States Court of Customs and Patent Appeals in several interference matters.

Chicago, Illinois, March 30, 1943.

Norman E. H. Deletzke,
James H. Littlehales,
Counsel for Plaintiff.

James H. Littlehales,
1240 Munsey Building,
Washington, D. C.

W. W. Cochran,
Solicitor, United States Patent Office.

131 ORDER PERMITTING WITHDRAWAL OF ORIGINAL EXHIBITS.

By consent of the parties hereto it is, this 15th day of February, 1943, ordered that appellant, Cherry-Burrell Corporation, in the above entitled cause of action, be permitted to withdraw the original exhibits filed in behalf of plaintiff and defendant for the purpose of filing them in the United States Court of Appeals for the District of Columbia for use in the appeal thereto in lieu of copies thereof.

Daniel W. O'Donoghue,
Justice.

Consent for the Plaintiff:
Norman E. H. Deletzke,
James H. Littlehales,
Counsel for Plaintiff.

Consent for Defendant:
W. W. Cochran,
Solicitor, United States Patent Office.

(Endorsed) Filed Feb. 15, 1943 Charles E. Stewart,
Clerk.

CLERK'S CERTIFICATE.

135 I, Charles E. Stewart, Clerk of the District Court of the United States for the District of Columbia, hereby certify the foregoing pages numbered 1 to 10, both inclusive and pages numbered 109 to 134, both inclusive to be a true and correct transcript of the record according to original designation by counsel filed and made a part of this transcript in action entitled Cherry-Burrell Corporation, Plaintiff *vs.* Conway P. Coe, Commissioner of Patent, Defendant, Civil Action No. 12,257, as the same remains upon the files and of record in said Court except the following: Copy of Transcript of Proceedings filed herein, as to the accuracy of which counsel has certified, is transmitted herewith and pages numbered 11 to 108, both inclusive.

Exhibits pages numbered 136 to 425, both inclusive, are transmitted herewith to be filed in the U. S. Court of Appeals for the District of Columbia for use in the appeal in lieu of copies thereof.

In Testimony Whereof, I hereunto subscribe my name and affix the seal of said Court, at the City of Washington, in said District, this 22nd day of March, 1943.

C. E. Stewart,
Clerk.

**APPENDIX TO APPENDIX TO APPELLANT'S
BRIEF.**

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SPECIFICATION OF TRIER-FOGG APPLICATION
SERIAL NO. 141,084 AS AMENDED.

276 This invention relates to improvements in bottle
washing machinery. More particularly the present in-
277 vention relates to novel improvements in mechanisms
for supporting bottles while being conveyed or car-
ried through the bottle washing machine, and to the com-
bination of the improved bottle pockets or supports with
the associated mechanisms for their satisfactory operation,
and to the novel improvements in said associated mech-
anisms.

The aspects of the invention which relate particularly
to the automatic bottle discharging mechanism, to the
arrangements for attempering bottles intermediate indi-
vidual washing operations, and to the improved washing
or spraying apparatus are fully disclosed and set forth in
our divisional applications entitled Bottle Washer Dis-
charge Apparatus, Bottle Attempering Apparatus For
Bottle Washers and Washing Apparatus For Bottle
Washers, respectively, each of which was filed on April 25,
1940.

In the conventional bottle washer of the type disclosed
in the present invention, including an intermittently mov-
able conveyor provided with transversely extending rows
of bottle supports mounted on transversely extending
frames, the construction normally is such as not to permit
the ready removal of individual pocket supporting frames
from the conveyor. The bottle supports or gripping ele-
ments used in the conventional conveyor for a bottle washer
are usually not readily removable from the frames upon

which they are supported or, if not supported from frames, from the conveyor.

Such ready removability of either the frames or the bottle pocket or bottle gripping mechanisms as such is a desirable feature in that it permits the ready replacement of individual elements as such replacement becomes necessary. Neither are the bottle gripping elements of the conventional type of bottle washing machines as contemplated by this invention so constructed as to grip the bottle only at spaced points about the bottle bead to thereby rigidly hold the bottle in predetermined relative position with respect to the bottle support and conveyor and yet expose substantially all of the bottle surface to the effect of the washing mechanism of the bottle washer.

278 It is, therefore, the prime object of the present invention to provide novel and improved bottle holders or gripping mechanisms for a bottle washer for firmly gripping and positively releasing bottles or other containers to be washed while affording maximum access of the washing and rinsing water to all surfaces of the bottles or containers while being carried through the bottle washer.

A further object of the present invention is to provide novel improved mechanism operatively associated with the improved bottle gripping apparatus to assure the positive gripping and releasing of bottles or containers by the improved gripping apparatus.

Other objects and important features of the present invention will become more apparent to those skilled in the art upon the examination of the details of construction and operation of the improvements in bottle washing machinery, as illustrated in the drawings and as clearly described in the specification and pointed out in the appended claims, reference being made to the accompanying drawings in which:

Figure 1 is a view showing our improved bottle washer largely in side elevation and partially in section.

Figure 2 is an enlarged detail view showing the loading and discharge portion of the conveyor and its associated parts fragmentarily in side elevation.

Figure 3 is a fragmentary detail view in section taken on the line 3-3 of Figure 1.

279 Figure 4 is a fragmentary detail view looking at a portion of the conveyor at the loading zone.

Figure 5 is a detail view in transverse section taken on the line 5-5 of Figure 4.

Figure 6 is an enlarged detail view in cross section through one of the bottle holding devices of the conveyor carriage.

Figure 7 is a detail view taken in section on the line 7-7 of Figure 6.

Figure 8 is a view similar to Figure 6 showing a modified embodiment of the invention.

Figure 9 is a detail view in vertical transverse section at the line 9-9 in Figure 1.

Figure 10 is a detail view in section showing a modified set of spring supported bottle engaging jaws.

158 Like parts are identified by the same reference characters throughout the several views.

The frame members 15 support a soaking tank 16 upon which is erected the top portion 17 of the casing of the machine.

At the opposite sides of the casing we provide generally symmetrically arranged guides or tracks 18 which may be made of angle iron as shown, for example, in Fig. 9, to support the rollers 19 of the conveyor 20. The lower flight of the conveyor is supported on similar guides or trackways 21 as indicated in Fig. 1. The bottom flight of the conveyor moves from left to right as viewed in Fig. 1, and the whole arrangement represents a more or less conventional type of machine which is adapted to receive the bottles at a loading station A in a substantially inverted position (Fig. 1 and Fig. 2), to carry them downwardly past a rinsing station B (Fig. 1 and Fig. 2), through a soaking zone in tank 16 as indicated at C, and thence upwardly in a partially inverted position for draining as shown at D to the washing stations E, rinsing station F, and the chlorinating station G, to the unloading station H.

The nature of the preferred type of chain conveyor which carries the bottles from one station to another through the machine is best shown in Figs. 2, 4 and 9. There is a

chain at each side of the machine and each chain comprises inner links 25 and outer links 26 spaced by the rollers 19 which turn upon the pins 27 that pivotally connect the respective links (see Fig. 4).

159 Each of the inner links 25 is formed to provide a bracket arm 28 projecting centrally. The carrier frames 30 bridge the spaces between the respective chains and are mounted at their opposite ends upon the bracket arms 28 as clearly appears in Figs. 4 and 5.

Each of the bottle carrier frames 30 is subdivided by means of webs 31 and 32 upon which respectively the relatively movable and fixed bottle engaging supports 33 and 34 are mounted. The cross lugs are apertured as best shown in Fig. 6, and the arms 33 have hooked terminal portions engaged in the aperture and thereby pivoted for relative movement to the extent permitted by the abutment of their ends with the webs 31 as shown in Fig. 5 and Fig. 6. Substantial compression springs 35 are interposed between each pair of relatively movable bottle supports 33 and positioned by the spring guides 36 which are riveted to the supports. These springs tend to hold the respective bottle engaging elements 33 in bottle engaging positions while permitting the forcible retraction of the supporting elements 33 by means of cams hereinafter to be described. It is an advantage to have separate springs instead of merely making the arms of resilient material.

The spring pressed arms are limited as to movement by their hinge constructions so that the springs cannot be lost.

160 The arms 34 are fixed to the webs 32 by welding or otherwise. While they have a certain degree of resilience they will tend to be substantially rigid, thereby accurately determining the position of each bottle for alignment with the nozzles hereinafter to be described. Each of the arms 33 and 34 comprising a bottle engaging pair is curved inwardly at 38 to approach the neck of the bottle behind the bead. The bottle neck is not contacted by these arms, however. Below the point 38 each of the arms is reversely curved outwardly as at 39 to extend around the bead portion of the bottle. The side margins of each arm are fitted to the bead portion of the bottle to engage it with

a finger-like grip action at spaced points, the arm being curved in transverse cross section so that its central portion clears the bead of the bottle, leaving almost the entire bead fully exposed. Immediately below this outward bend the arm 34 terminates at 40, its lower corner margins being formed inwardly at 41 to act as stops limiting the downward movement of the bottle during the insertion thereof, but out of contact with the pouring lip of the bottle when the clamping arms are released for bottle engagement. The arm 33 has similar marginal portions at 42 for engaging the bead of a bottle at spaced points, but arm 33 continues below the bottle to provide a cam follower 43 at its lower end. Water can find access to the pouring lip and bead of the bottle between the apices 41 of the terminal portion 40 of arm 34 and through a special opening at 44 which is provided adjacent the bead engaging portion of arm 33.

161 The illustrated construction of these arms is not only adapted to receive a conventional bottle as shown in broken lines in Fig. 6, but will also receive with equal facility special forms of bottles such as bottles having a crown finish beyond the wash ring or bead. In either case the bead of the bottle is tightly engaged at four spaced points by the margins of the clamping arms, and neither the pouring lip nor any other portion of the bottle is touched by any element of the clamp. This leaves all portions of the pouring lip and the rest of the bottle fully exposed for the washing operation, although the bottle is rigidly supported.

* * * *

If desired, the arms may be given an extra convolution at 45 and 46 respectively, as shown in Fig. 8, to support a cheese jar 47 or the like. These extra convolutions do not in any way interfere with the normal use of the arms for supporting bottles, the other contours of the arms shown in Fig. 8 being identical with those already described.

* * * *

161 The particular conformation of the clamping arms as above described not merely supports the bottles rigidly, and not merely exposes almost the entire surface of each bottle to the cleansing jets, but there is the additional advantage that the bottles are centered over the jets and

there is a minimum of metallic contact of the clamping surfaces with the bottle, the quick heating and cooling of the bottle being thereby promoted.

162 In the construction shown in Fig. 6 the movement of the jaws under pressure of spring 35 is limited, in the absence of the bottles, by engagement of the hinged ends of the jaws with the cross members 31 of the carrier frame. This arrangement is entirely satisfactory from the standpoint of the operation of the device, but where it is expedient to remove or replace the jaws from time to time, some structure such as that shown in Fig. 10 may be preferred.

In this organization the structure of the carrier frame is unaltered. The spring 35 and its abutments or guides 36 are likewise the same. The individual spring pressed jaws 330, however, have been altered by bending their hinged ends upwardly instead of downwardly as at 340. The arrangement is such that they contact each other to limit the separation of their free ends under compression of the spring. With this type of moving clamp support it is possible for the operator to release either jaw by manipulating the pair of jaws as far as they can be pushed to one side or the other, and then withdrawing the upwardly formed end 340 of the jaw on that side through the aperture in frame element 31. Of course the withdrawal of one jaw will leave the spring and the other jaw free so that they can readily be taken out also.

163 The strength of the springs 35 is such that the movable supporting elements 33 are preferably mechanically retracted prior to the discharge of the bottle and prior to the insertion of another bottle in the given support. Mechanical retraction enables us to use strong springs for accurate bottle positioning without chipping the bottle by using it to press the holding arm 33 inside. In order to accomplish such retraction we preferably provide two sets of retracting cams both of which appear in side elevation in Fig. 2, and one of which appears in plan and end elevation in Figs. 4 and 5 respectively. While the cams differ in extent and form, their principle of operation is identical.

Prior to the unloading station H we provide a bridge plate 50 which spans the rails 18 in the same manner in which the bridge plate 51 extends across beneath the con-

veyor at the loading station A. On the bridge plate 50 we mount pairs of cam elements 52 which are opposed in the same manner as the cam elements 53 which are mounted on the bridge 51 at the loading station. In each instance the arrangement is such that as the conveyor advances, the free end portions 43 of the sets of retractible bottle supporting elements 33 are engaged by the opposed cams and moved toward each other in opposition to the compression of the interposed springs 35. As a result, the relatively movable bottle engaging elements are retracted from the relatively fixed bottle engaging elements, leaving sufficient clearance so that the bead portion of the bottle may be freely inserted or removed.

164 When this happens, as each successive carrier is approaching station H, the bottle will be left loose within the frame. Beneath each opening there is a lever 55 having a bottle ejecting terminal portion 56 which is normally retracted in the dotted line position of the lever shown in Fig. 2. As the cam shaft 57 revolves, its cam 58 will engage the cam follower roller 59 carried by one of the levers 55, with the result that, at the proper time, the rock shaft 550 will be oscillated and each lever will be lifted to the full line position shown in Fig. 2, thereby ejecting the bottles out of their respective openings on to the receiver 60 which is thereupon erected by means of the link 600 from the position shown in Fig. 1 to the position shown in Fig. 2. The bottle receiving position shown in Fig. 1 may conveniently be defined by any suitable stop such as the lug 601 on the bottle receiver and the complementary lug 602 on the supporting bracket (as shown in Fig. 2). The compression spring 603 (Fig. 1) absorbs any excess movement in the actuating rod 600 after the stops 601 and 602 are engaged.

The position of the head 605 on the actuating link or rod 600 will determine the upright position of the bottle receiver 60. In this latter position the bottles are delivered on to a cross conveyor 61 by means of which they may be removed. The guard 606 holds the bottles upright on the cross conveyor at the time of delivery thereto.

165 As each carrier leaves the unloading station H the termination of the cam elements 52 will allow the movable jaws 33 of the bottle supports to close temporarily,

only to be re-opened as the carriers approach the loading station A by the engagement of the surfaces 43 with the fixed cam elements 53. At station A the bottles are inserted into the conveyor holders either mechanically or by hand, the means of insertion being unimportant to the present invention.

166 It is, however, important to note that we provide at the loading station temporary supports for the individual bottles to ensure that each bottle will be maintained temporarily at the proper height to be accurately engaged by the clamping portions of the supporting elements 33 and 34. For this purpose I mount upon the bridge plate 51 beneath the path of each bottle opening a supporting spring 62 and an anti-tilting spring 63, as best shown in Figs. 2, 4 and 5. The supporting springs 62 receive resiliently the impact of the incoming bottles and assure the support of the bottles with their bead portions in line with the bead receiving curves 39 of the clamping elements 33 and 34 of the carrier. Since the bottle will be inclined when inserted into the carrier at station A, it is desirable to employ the anti-tilting springs 63 which tend to maintain the bottle temporarily at right angles to the carrier. As the carrier leaves station A in the course of the conveyor movement, the cam will release the movable supporting elements 33 of the bottle engaging clamp and these elements will clampingly co-operate with the fixed elements 34 to retain the bead portions of the bottle so that each bottle will be rigidly supported in the position illustrated in broken lines Fig. 6 throughout its traverse of the machine.

167 The conveyor is preferably given a step by step movement, each step being equivalent to the distance from center to center of consecutive carrier elements. By locating the chain propelling means immediately adjacent station H we keep all slack out of the chain throughout that flight which passes the washing jets, thus assuring accurate registration of the several carriers with the successive jets during each dwell of the conveyor. We prefer to use the conveyor advancing means which includes levers 65 and 66 pivoted on a rock shaft 67 at opposite sides of the machine, the lever 65 having a slotted extension 68 engaged by the crank 69 which is mounted on shaft 57. The

levers 65 and 66 respectively are each provided with dogs 70 adjustably limited as to movement in one direction by means of the set screws 71, and free to move pivotally in opposite direction about the fulcrum pins 72 whereby they are connected with their respective levers.

168 Each of the dogs 70 is in the plane of the rollers 19.

When the levers oscillate in a clockwise direction as viewed in Fig. 1 and Fig. 2, the dogs swing to the left and upwardly to ride over the rollers, dropping by gravity behind each roller. During the counterclockwise oscillation of the levers 65 on shaft 67, each dog will engage the adjacent roller and will simultaneously engage its adjustable stop 71 so that the rollers will be propelled by the counterclockwise movement of the arms, thus advancing the entire conveyor one step. The arrangement of the conveyor guides 18 and 21 as illustrated in Fig. 1, is such that all of the slack in the conveyor chains will occur at station I in tank 16.

* * * * *

171 Throughout the progress of the conveyor through the soaking tank 16 the bottle will be right side up and will be full of the soaking liquid and will be entirely surrounded by such liquid.

As the bottle approaches station D it will gradually be inverted and drained of its contents which will return to the soaking tank, leaving the bottle empty.

172 At station E the bottle will, in three successive advances, stop in registration with washing jets delivered from the pipes shown in dotted lines in Fig. 1 and supplied by a header 85 connected with pump 76.

174 The water discharged by the washing jets supplied by pump 76 is returned by tray 105 to the sump 106 from which leads the intake of pump 76.

Since some of the water taken from the sump 106 is delivered by pump 76 to the pre-rinse jet 75 as already described, it is necessary to replace this water. This is done by means of a supply line 107 leading from any desired external source to the overhead shower spray 108 and the rinsing spray 109.

Before the cleaned and rinsed bottle leaves the machine it is treated at station G by a chlorinated jet from pipe 110 which is supplied from a special pump 111 circulating

the sterilizing liquid from the sump 112 in which such liquid collects. Thence the bottles proceed to the point of discharge and are ejected by lever 55 as already described, to make room for the insertion of other bottles.

It will be noted that there is an opening at 115 transversely through the center of the casing. Within this opening the pumps 76 and 111 and the speed reducer 116 (from which shaft 57 is driven by chain 117) are all accessible.

The organization of the machine is exceptionally compact, all of the mechanism being selected with a view to its accommodation in an unusually small amount of space, considering the capacity of the apparatus.

In accordance with the foregoing description applicants have provided an improved bottle gripping mechanism for an automatic bottle washer in which each of the bottles, as it is being carried through the bottle washer, is individually gripped at spaced points about the bottle head, thereby exposing substantially all of the entire surface of the bottle to the effect of the washing water and rinsing sprays. By virtue of this minimum contact of the surface of the bottle by the metal gripping fingers of the bottle supports, a minimum amount of cooling water or heating water is required to effect a temperature change of the bottle.

By positively gripping the bottle and maintaining it in predetermined relative position with respect to the gripping mechanism which supports each respective bottle, it is possible to so arrange the various washing and rinsing mechanisms as to secure the desired alinement between these washing or rinsing mechanisms and the bottle to be washed during the various periods of dwell of the intermittently moving conveyor. The novel construction of the bottle pockets and the manner of supporting them on the transversely extending frames of the bottle conveyor provide an organization of parts in which various elements of the supporting pockets can be easily removed or inserted into the supporting frames of the conveyor to facilitate the ready, rapid repair of the washer in case it becomes necessary.

The invention has been described in its preferred embodiment, as disclosed in the various drawings. However, the novel principles thereof can well be applied

in various modifications of the specific apparatus disclosed. The invention is, therefore, not to be restricted except in so far as is necessitated by the prior art and the spirit of appended claims.

ALLOWED CLAIMS TRIER-FOGG APPLICATION
SERIAL NO. 141,084.

177 5. In a bottle washer, the combination with later-
252 ally spaced conveying elements, of a frame connected
at its ends with said elements and having side bars and
intervening partitions forming at least one opening, jaw
members connected with partitions at opposite sides of the
opening and being relatively movable in a direction trans-
verse with respect to the movement of said conveyor ele-
ments, said jaw members having bottle-engaging portions
spaced from the frame formed to fit a bottle adjacent the
mouth thereof, spring means urging one of said jaw mem-
bers toward the other with sufficient force to enable said
jaw members to comprise the sole support for a bottle in
said opening to maintain said bottle normally out of con-
tact with said frame and partitions, and means disposed
in the path of movement of said spring-pressed jaw mem-
ber for acting on the spring-pressed jaw member in oppo-
sition to the spring, whereby to separate the bottle-engag-
ing portions of said jaw members.

179 8. In a bottle washing machine having discharging
235 and loading stations, the combination with a conveyor
253 operable between said stations and provided with a
series of bottle receiving openings, and jaws associ-
ated with each of the respective openings and relatively
movable for clamping engagement upon bottles positioned
in the respective openings, means for actuating the con-
veyor, means for maintaining said jaws normally in bottle-
engaging positions, means in the path of movement of said
jaws at said stations for mechanically acting upon said
jaws to open said jaws for the release of a bottle to be
discharged and the reception of another bottle to be loaded
on said conveyor, and means disposed in the path of ad-
vance of said jaws at said stations for supporting bottles
in predetermined jaw-engaging position.

180 10. In a bottle washing machine, the combination

236 with a conveyor including a series of unitary frames
 253 providing bottle receiving openings, of relatively fixed
 jaw members carried by said frame in association with
 the respective openings, relatively movable jaw members
 carried by said frame in association with the respective
 openings, individual springs acting on each of the rela-
 tively movable jaw members in directions to urge them
 individually and independently of other movable jaw mem-
 bers toward the respective complementary fixed jaw mem-
 bers for mechanically retaining bottles in the respective
 openings, the relatively movable jaw members having cam
 operable portions, and cam means disposed at a prede-
 termined station in the path of conveyor advance for act-
 ing on the cam operable means of the movable jaw mem-
 bers in a direction to retract said members to bottle re-
 leasing positions, each of said movable and complementary
 fixed jaw members being so constructed and arranged as
 to form a pocket-like construction, the walls of which aid
 in guiding the bottles to be clamped into proper clamping
 position.

182 12. In a device of the character described, the com-
 bination with spaced conveyor elements, of a series of
 carrier frames connected at their ends with the respective
 elements and each providing a number of work receiving
 openings, fixed jaw members connected with the respective
 carrier frames adjacent each opening and having work
 engaging portions, movable jaw members connected with
 said frames adjacent the respective openings and having
 work engaging portions respectively opposed to the cor-
 responding portions of the fixed jaw members, the mov-
 able jaw members of two adjacent openings being dis-
 posed back to back and movable in opposite directions
 transversely of the path of conveyor movement, a spring
 interposed between said last mentioned members for urg-
 ing said members toward their respective fixed jaw mem-
 bers into clamping engagement with work disposed in the
 respective openings, and cam means disposed in the path
 of conveyor advance for retracting the movable jaw mem-
 bers toward each other to work releasing positions.

183 13. In a bottle handling conveyor, a carrier frame
 237 comprising side bars and pairs of partitions subdi-

254 viding the space between said bars into openings, movable jaw members connected with alternate pairs of partitions to move oppositely for engagement with work in adjacent openings, and spring means interposed between said members for urging them in opposite directions toward work engaging positions, other jaw members connected with remaining pairs of partitions and opposed to said spring actuated members, each of the several jaw members having its central portions spaced from the bead of a bottle for engagement with such a bead only at points peripherally spaced thereon, whereby to leave other portions of a bottle bead accessible for cleansing.

184 14. In a bottle handling conveyor, a carrier frame comprising side bars and pairs of partitions subdividing the space between said bars into openings, movable jaw members connected with adjacent partitions to move oppositely for engagement with work in adjacent openings, spring means interposed between said members for urging them in opposite directions toward work engaging positions, other jaw members connected with other partitions and opposed to said spring actuated members, each of the several jaw members having its central portions spaced from the bead of a bottle for engagement with such a bead only at points peripherally spaced thereon, whereby to leave other portions of a bottle bead accessible for cleansing, said spring actuated jaw members being extended beyond their respective bead-engaging portions and apertured between said portions.

185 15. In a bottle washing machine, bottle-engaging
237 jaws for supporting and rigidly positioning a bottle
254 and formed to provide and maintain clearance between it and all portions of the surface of a bottle other than the bead, each of said jaws being concave in a manner complementary to the outer periphery of the bead of the bottle to be engaged thereby for clamping engagement about the bottle bead at points axially spaced from the bottle mouth, said concavity of the bead-engaging portion of the jaws also being such as to afford contact with the bead only at peripherally spaced points thereon while elsewhere affording and maintaining clearance therefrom.

185 16. A pair of jaws each in accordance with claim
237 15, means mounting said jaws for relative movement

255 in opposition to each other, means urging one of said jaws toward the other, said urged jaw having a cam operable portion projecting beyond its bead-engaging portion and being apertured at its bead-engaging portion to afford access to the bead engaged thereby, and means positioned below said jaws to support a bottle in jaw-engaging position when said jaws are being moved relative to each other.

186 17. The combination with a conveyor including a 237 carrier frame, of work positioning jaws carried by 255 said frame and having work engaging portions fitted to the work to be engaged thereby, of means urging one of said jaws toward the other, cam means in the path of jaw advance for temporarily retracting said last mentioned jaw, and means disposed adjacent the cam means for resiliently supporting work inserted between said jaws at a level such that the work will be accurately engaged by said jaws upon the release of the last mentioned jaw by the cam.

187 18. In a bottle washing machine, the combination 237 with a conveyor provided with a series of carriers, of 255 fixed and relatively movable jaw members mounted on the respective carriers and provided with bottle bead-engaging portions, means urging the relatively movable jaw members toward the relatively fixed jaw members for bottle bead engagement, cam means disposed in the path of jaw movement for mechanically retracting the movable jaw members to bottle releasing positions, and a support adjacent the cam means in the part of bottle introduction at a level to sustain the mouth of a bottle in registry with the bottle-engaging portions of said jaw members to be engaged thereby upon the release of the movable jaw member by said cam means.

188 19. In a bottle washing machine, the combination 237 with a conveyor provided with a series of bottle car- 255 riers, of pairs of jaws associated with the respective carriers for bottle bead engagement, each of said pairs comprising a fixed and a movable jaw means urging the movable jaws of the respective carriers normally to bottle-engaging position, means at a predetermined station in the path of carrier advance for mechanically retracting the movable jaws from said position, and means inde-

pendent of said jaws at said station for temporarily positioning bottles interposed into the respective carriers pending the engagement of said bottles by said jaws.

200 39. In a bottle washing machine or the like, a pair
239 of bottle-engaging jaws having bottle bead-engaging
256 portions, said jaws being provided with toric surfaces of lesser diameter axially and transversely than the bead of said bottle and each jaw being adapted for clamping engagement about said bottle bead at points spaced axially and transversely on the outer periphery of said bottle bead, said jaws being formed to clear a bottle at all other points and one of said jaws being extended beyond its bead-engaging portion and apertured to afford access of cleansing water to portions of the bead between said points of said toric surfaces not in engagement with the bottle bead.

236 54. In a device of the character described, the
257 combination with laterally spaced conveyor elements, of work carrying frames carried in alinement between said elements and providing work receiving openings, movable jaw members connected with the respective frames and relatively movable transversely with respect to the path of conveyor movement, complementary fixed jaw members carried by the frames which co-act with said relatively movable jaw members, all of said jaw members having work engaging portions spaced from said carrier frames for engagement with work in the respective openings when all of said jaws are in bottle-engaging position, springs acting on said relatively movable jaw members for the engagement thereof with the work, and separate cam devices operatively disposed in the path of advance of said movable jaws and at spaced points relative thereto for temporarily moving each of said movable jaw members away from its complementary fixed jaw member while at the work releasing position.

238 55. In a bottle washing machine or the like, the combination with a conveyor including a series of frames transversely disposed to the direction of movement of the conveyor and provided with bottle receiving openings, of a bottle supporting jaw element having bottle bead-engaging portions at different levels, each separately adapted for clamping engagement with a bead of a bottle

and fixed to said frame, whereby beaded bottles of different sizes may be positively engaged and rigidly held in position during the movement of said conveyor.

239 56. In a bottle washing machine, the combination with a carrier, of sets of bottle-engaging jaws carried thereby, said carrier including an apertured frame element and one of said jaws of each set having a portion extending through an aperture of said frame element and releasably interlocked in pivotal connection therewith, means including a spring for normally confining said jaw to a position adapted for free pivotal movement thereof in which it will remain in interlocking connection with said frame element, said jaw being freely disengageable from said frame element when manipulated to the extreme bottle disengaging position.

* * * * *

UNITED STATES
COURT OF APPEALS FOR THE
DISTRICT OF COLUMBIA

FILED AUG 26 1943

Joseph W. Starnes
BRIEF FOR APPELLANT.

CLERK

IN THE
United States Court of Appeals
FOR THE DISTRICT OF COLUMBIA.

No. 8487

CHERRY-BURRELL CORPORATION,
Appellant,

vs.

CONWAY P. COE, COMMISSIONER OF PATENTS,
Appellee.

**Appeal From the District Court of the United States for
the District of Columbia.**

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**Appeal From the District Court of the United States for
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BRIEF FOR APPELLANT.

JURISDICTIONAL STATEMENT.

This is an appeal from the judgment of the District Court dismissing the complaint of plaintiff-appellant (Appellant's App. 160) filed under the provisions of Section 4915 R. S., 35 U. S. C. 63, as amended August 5, 1939, c. 451, Sec. 4, 53 Stat. 1212, to obtain a patent upon the improvements in "Bottle Washing Machinery". This being a suit arising under the Patent Statutes of the United States, jurisdiction existed in the United States District Court and this Court has jurisdiction upon appeal to review the judgment of the District Court.

The District Court, as well as the tribunals of the Patent Office, held that the improvements in "Bottle Washing

Machinery" invented jointly by Carl L. Trier and Jesse W. Fogg (assignors to plaintiff-appellant of their entire interest in the invention disclosed in their application, Serial No. 141,084, filed May 6, 1937) as set forth in Claims 1, 4, 6, 7, 52 and 53 (Appellant's App. 3-5) was not patentable as lacking invention over the prior art (Appellant's App. 159). The District Court further held that the question of patentability of the inventors' revised version of Claims 1, 4, 6, 7, 52, the proposed new Claim 57 (Appellant's App. 5-7), and the proposed cancellation of Claim 53 were not properly before the District Court for determination of patentability (Appellant's App. 159).

STATEMENT OF THE CASE.

The invention involved relates to milk bottle washing machinery, which invention, to the uninitiated, may appear to have been relatively simple and easy of accomplishment but which invention in fact was originated by the inventors only after many preliminary experiments. After the invention had been originated, it required the expenditure of great effort and the incurring of considerable expense to bring it to a successful conclusion and sufficient perfection to secure commercial adaptation and acceptance thereof (Appellant's App. 26).

It appears desirable, first, to discuss the problems which confronted the inventors at the time they made the invention, then to review the prior art disclosures which were available to them and, finally, to show how the invention in issue solved these problems and how the invention differed from the prior art.

The Problems Which Confronted the Inventors.

The inventors, Carl L. Trier and Jesse W. Fogg, were employees of Cherry-Burrell Corporation, plaintiff-appellant here. One of the inventors, Jesse W. Fogg, had for many years been associated with the manufacture and sale of milk bottle washers (Appellant's App. 12, 13). Cherry-Burrell Corporation has long been recognized as one of the largest manufacturers of dairy machinery, including milk bottle washers. Appellant had for years been manufacturing and selling commercial milk bottle washers. Generally speaking, these milk bottle washers manufactured and sold prior to the instant invention were all of the large capacity type, known as soaker type bottle washers, and were costly and massive machines. Briefly stated, commercial milk bottle washers of the type just

referred to consisted of a generally rectangular housing or casing four to five feet wide, approximately six feet in height and twelve to fifteen feet long. Some models of these machines were, of course, somewhat smaller in size. Other models of these machines were considerably larger. These machines were equipped with many types of instruments and controls for the automatic operation of the washer and the automatic control of liquid pressures and temperatures in various portions of the bottle washing machines. All of these machines were equipped with intermittently movable bottle conveyors, *i. e.*, laterally spaced conveyor chains joined by transversely extending bottle supporting racks, into which racks the bottles would be loaded at a loading station at one end of the machine and unloaded from the unloading station usually at the same end of the machine after the bottles had traversed through all of the washing, soaking, rinsing, cooling and sterilizing stations within the bottle washer.

The inventors, in the interests of their employer, appellant here, were interested in the development and perfection of a commercial bottle washer of small, compact and inexpensive design and wherein the principal wearing parts were readily replaceable or repaired and which machine would be adaptable particularly for use in small dairy plants requiring only machines of small capacities (Appellant's App. 13, 14). These objectives appeared most readily attainable by designing a new type of bottle holder for incorporation in the bottle conveyor for use in the small, automatic, continuous bottle washing machine. The improved bottle holder consisted of a gripping device perfected by the inventors which enabled the exposure of substantially all of the surface of the bottle while traveling through the bottle washer so as at all times to expose substantially all of the bottle to the action of a washing fluid, thereby enabling the shortening of the necessary travel of the bottle through the various washing, soaking and steril-

izing stations and yet securing satisfactory cleansing, cooling and sterilizing of the bottles (Appellant's App. 61-71, Plf. Ex. 3, 3A, 3B).

One of the chief advantages of the improved bottle gripping or holding device is that all sizes of bottles are gripped by the same jaws in the same manner and the bottle is gripped only at spaced points around the bottle ring or bead at the mouth of the bottle, thereby rigidly holding the bottle in predetermined position against any tendency of the bottle to be moved by excessive water pressures at the washing jets, as well as against undesired tilting while traveling through the bottle washer (Appellant's App. 61-71, Plf. Ex. 3, 3A, 3B, Appellant's App. 139). This construction permitted the inventors to reduce the overall size of the machine, to eliminate various automatic pressure regulating devices and various auxiliary bottle supporting guides and rails, as well as to permit the rapid discharge of the bottle at the unloading station and the exposure of a sufficient part of the bottle at the loading and unloading stations, enabling the manual loading and unloading of bottles into the small bottle washer as well as the use of automatic loading and unloading devices.

Applicants' Invention.

The applicants' invention, as set forth in the claims involved in this appeal (App. to Appellant's App. 169-179; Appellant's App. 37, 135-141), is directed to a bottle washer comprising an enclosing housing provided with an endless bottle conveyor formed of a pair of laterally spaced endless chains connected at intervals by transversely extending bottle carrying frames. Each bottle carrying frame consists of a pair of side bars and cross partitions so spaced as to form several bottle receiving openings. Each bottle opening has associated therewith a pair of bottle gripping and supporting jaws. One jaw of each pair of

bottle gripping and supporting jaws is fixed to a cross partition of the bottle carrying frame and the other jaw is hinged to another cross partition. This hinged jaw and other similarly hinged jaws are all so hinged as to be independently movable of all other hinged jaws. Each of the hinged jaws is biased or urged by a spring toward its complementary fixed jaws.

This arrangement of jaws enables the gripping and supporting of a bottle by a pair of jaws or grippers. Each of the bottle gripping jaws of each pair of jaws is so constructed and arranged as to engage only spaced points on the outer periphery of the bead or ring around the mouth of the milk bottle and thus constitutes the sole means for supporting and rigidly locking each bottle in washing position in such a manner as to maintain the bottle out of contact with any other portion of the conveyor or the bottle washer. This arrangement permits exposing substantially all of the body of the bottle to the washing, rinsing, sterilizing and cooling solutions in the bottle washer, as well as enabling the easy handling of the bottles at the loading and unloading stations. To enable the loading and unloading of the bottles from the gripping jaws of the bottle conveyor, the hinged jaws are each provided with an extending portion or cam rider at their free ends to engage a cam rail thus to move the jaws transversely of the direction of the motion of the conveyor, thereby opening the jaws while the bottle gripping jaws are traveling through the bottle loading and unloading stations. To enable the bottle gripping jaws to support the bottle by only spaced-point contact on the bottle bead or ring at the mouth of the bottle, the gripping jaws are given a double-concave curvature, as a result of which only spaced points on the lateral edges of the gripping faces of the jaws engage any portion of the bottle, thus exposing not only all of the body of the bottle but also substantially all of the bottle bead or ring to the action of the washing fluids.

The bottles, when dropped into the empty carriers at the loading station, are dropped against a bottle supporter and positioner comprised of a spring element which, by flexing, absorbs the shock of the falling bottles and thereafter lifts the bottles into proper position for engagement by the bottle gripping jaws. These spring skids are positioned in the path of travel of each pair of jaws at the bottle loading station, at which station, as well as at the unloading station, the hinged jaws have been moved sidewise by the cam rails from gripping position so as to permit the loading and unloading of bottles. The temporary bottle support and lifters consisting of spring skids maintain the bottles in proper bottle gripping position while they are moved forwardly with the motion of the conveyor from the bottle loading station until the hinged bottle grippers have disengaged themselves from the cam rails which open the gripping jaws whereupon the gripping jaws close in upon the beads of the bottles to securely lock the same in position and to support the bottles within the gripping jaws until the bottles reach the unloading station.

**Goldman, Andersson, Herold et al and Lozowsky
Inventions.**

The Goldman patent No. 1,012,843 (Appellant's App. 85) merely discloses a conventional bottle supporting frame for a mechanical bottle washer, together with a movable gate or door for the bottle pockets. The side bars and partitions of the bottle holding frames of the Goldman invention are so formed as to provide a cage-like pocket for receiving and supporting bottles. The movable bottle pocket gates are hinged to the frames so as to enable the closing of the large open end of the bottle pockets, thereby entrapping the bottles within the bottle pocket. This patent to Goldman discloses nothing whatsoever which is similar to the novel elements of the invention covered by the claims in issue (Appellant's App. 25, 43).

The Andersson patent No. 1,577,092 (Appellant's App. 105) discloses a bottle supporting holder for a bottle washing machine. This holder consists of a number of spaced rigid fingers rigidly secured to a rigid frame. None of the elements of the Andersson type of bottle holder is movable or grips the bottle. Neither do these elements hold the bottle securely against motion while supported within the Andersson type of holder. For these reasons the Andersson patent does not anticipate any portion of the invention covered by the claims in issue (Appellant's App. 25 and 43).

The Herold *et al.* patent No. 1,824,993 (Appellant's App. 109), in so far as it has any relation to the issue involved in this appeal, discloses only a conventional type of bottle carrying frame for a bottle washer in which the frame is provided with individual bottle pockets for loosely supporting individual bottles. The Herold *et al.* patent does not disclose any means for securely gripping and supporting bottles, which element is a necessary feature of each of the claims involved in this appeal, and accordingly the Herold *et al.* patent does not anticipate any portion of the invention covered by the claims in issue (Appellant's App. 25 and 43).

The Lozowsky patent No. 1,789,684 (Appellant's App. 185) discloses a modified coffee percolator adapted for the sterilization of a baby's milk bottle. The only apparent relation that the disclosure of the Lozowsky patent has to the invention in issue is that it discloses a set of fingers made of spring material for the gripping of the bottle while being sterilized in the modified coffee percolator to thus maintain the bottle in proper position in the sterilizer. Obviously the Lozowsky patent does not contain sufficient disclosure to anticipate the invention covered by the claims in issue (Appellant's App. 25 and 43).

Wachs et al Invention in a Bottle Conveyor.

The Wachs *et al.* patent No. 1,213,308 (Appellant's App. 95) discloses a bottle washer provided with a single conveyor chain having individual bottle supports fixed to the chain on either side thereof. These individual bottle supports consist of a funnel-shaped supporting element fixed to the conveyor chain for receiving the neck of the bottle and thus supporting the bottle. Wachs *et al.* provides means for locking the bottle in the bottle supporting funnel, see Figures 4 and 5 of the Wachs *et al.* patent (Appellant's App. 98). This locking means consists of spring-biased jaws swiveled to the bottle supporting funnel and so formed as to engage the bottle at the narrowed portion of the neck of the bottle immediately below the restricted part of the bottle supporting funnel of Wachs *et al.* The bottle is, however, slidable in the locking jaws of Wachs *et al.*, as clearly illustrated in Figures 4 and 5 of the Wachs *et al.* patent referred to above. The locking jaws of Wachs *et al.* are held in locking position by springs and are openable to enable the removal of the bottle from the funnel-like holder by engagement of a portion of the movable locking jaws with cam rails positioned in the path of travel of the jaws.

Wynne et al Invention in a Bottle Holder and Washer.

The Wynne *et al.* patent No. 1,934,250 (Appellants' App. 117) has been relied on as one of the chief prior art disclosures which allegedly anticipate the invention set forth in the claims in issue. The Wynne *et al.* patent discloses a bottle washing machine having an endless bottle conveyor consisting of spaced chains provided at intervals with transversely extending bottle supporting frames. These bottle supporting frames in turn are equipped with individual bottle pockets consisting of properly shaped fingers or elements made of resilient material, such as spring steel. In the Wynne *et al.* type of bottle washer the bottles are

not gripped at any point whatsoever. The bottles are merely supported by the pockets within the confines of the pockets during certain portions of their travel through the bottle washer by engagement of the fingers and the bottle supporting frames with the sides of the bodies of the bottles and the enlarged portions of the bottle necks. The bottles are obviously free to move readily within the Wynne *et al.* type of bottle pockets. During certain portions of the travel of the bottles through the Wynn *et al.* type of bottle washer the bottles are supported solely by a bottle supporting skid positioned below the path of travel of the bottle pockets. The object of the skid is to support the bottles and to prevent the bottles from falling out of the bottle pockets. The novel feature of the Wynn *et al.* type of bottle pockets, which included the resilient type of bottle supporting fingers, was to enable the discharge of the bottle from the Wynn *et al.* type of bottle pockets by forcefully pushing the bottles into and through the pockets with sufficient pressure as to dilate the spring fingers of the bottle pockets to such an extent as to enable the bottles to pass completely through the restricted ends of the bottle pockets into a bottle discharge cradle. As clearly shown in the Wynn *et al.* patent, the bottles were pushed through the pockets by mechanically driven bottle ejecting plungers.

Ruprich Invention in a Bottle Washer.

The Ruprich German patent No. 524,003 (Appellant's App. 131) has been relied upon as one of the chief prior art disclosures allegedly anticipating the invention covered by the claims in issue. The Ruprich patent discloses a bottle supporting frame for a bottle conveyor in which the bottles are gripped by fixed and movable spring-biased jaws. All of the movable jaws are movable in unison and not independently. The Ruprich German patent does not disclose means for opening and closing the pairs of bottle gripping jaws at bottle loading and unloading stations and

does not disclose means independent of the bottle jaws for supporting a bottle in proper position to be gripped by the gripping jaws at the bottle loading station.

**History of Application for Letters Patent Serial No.
141,084.**

The application Serial No. 141,084 for Letters Patent of the United States (Plf. Ex. 2) was filed in the United States Patent Office on May 6, 1937 by the joint inventors Carl L. Trier and Jesse W. Fogg. During the prosecution of said application a requirement for division was made final by the Examiner on April 22, 1938 and several divisional applications directed to the divisible subject matter have been filed. On October 19, 1939 claims 12, 14, 55 and 56 had been allowed. The remaining claims of the application were finally rejected as of that date. On or about April 18, 1940 applicants appealed to the Board of Appeals of the United States Patent Office from the final action of the Examiner just referred to rejecting, among other claims, Claims 1, 4 to 10, 15, 16, 19, 39, 52, 53 and 54. The statement of the Examiner dated August 1, 1940 (Appellant's App. 143) filed with the Board of Appeals in reply to applicants' appeal indicated that claims Nos. 10, 13, 16, 17, 18 and 39 were allowable in addition to the previously allowed Claims 12, 14, 55 and 56. The Board of Appeals in its decision of January 25, 1941 (Appellant's App. 152) reversed the Examiner as to the rejection of Claims 5, 8, 15, 19 and 54 and affirmed the Examiner in the rejection of Claims 1, 4, 6, 7, 52 and 53. On March 6, 1941 applicants filed an amendment (Appellant's App. 47) by which they amended Claims 1, 4, 6, 7 and 52, added new Claim 57 and offered to cancel Claim 53. Claims 1, 4, 6, 7 and 52 were amended by inserting therein various limitations which, in view of the decision of the Board of Appeals (Appellant's App. 152), had apparently been considered by that Board as sufficient limitations to dis-

tinguish certain claims held allowable by the Board of Appeals from the prior art. New Claim 57 was copied in substance from the Claim 1 of the Dostal patent No. 2,210,529 (Appellant's App. 80). On March 12, 1941 the Patent Office Examiner issued an action (Appellant's App. 54) indicating that the new Claim 57 was not supported by the disclosure of the application in issue, and specifically refused to declare an interference between applicants' application and the aforementioned Dostal patent and also refused to enter applicant's amendment of March 6, 1941. On July 8, 1941 applicants filed a Petition for Reconsideration (Appellant's App. 55) with the Board of Appeals of the United States Patent Office offering to amend certain claims the Examiner's rejection of which had been affirmed by the Board of Appeals. In said Petition for Reconsideration, applicants stated to the Board of Appeals that they were resubmitting with the said petition, the amendment of March 6, 1941, discussed said amendment and requested the Board to allow the rejected claims in the amended form.

Upon consideration of applicants' request for reconsideration of the Board's decision, which included a request for the consideration of the aforementioned amendment, the Board of Appeals denied the petition on July 16, 1941 (Appellant's App. 60). On July 24, 1941 applicants' assignee, appellant here, filed a complaint (Appellant's App. 1) in the District Court of the United States for the District of Columbia urging that the appellant be adjudged entitled to receive Letters Patent of the United States including the claims in issue. On January 14, 1943, the District Court dismissed said complaint (Appellant's App. 160).

**Appellant's Improved Bottle Washer Has Been
Commercially Successful.**

Appellant's bottle washer embodying the aspects of the invention set forth in the claims here in issue was introduced to the public in 1937 and since that day has been extensively commercialized by appellant (Appellant's App. 26). Such commercialization of the improved bottle washer by the appellant resulted in the manufacture and sale of a great number of improved bottle washers embodying the present invention between the date that the improved bottle washer was introduced to the public, as above-mentioned, and the commencement of the present emergency which has brought about the curtailment of the manufacture and sale of such machines. The appellant's improved bottle washing machine embodying the instant invention was commercially known as the appellant's "Baltimore Washer".

STATEMENT OF POINTS.

The District Court erred in not finding that the appellant is entitled to a patent containing Claims 1, 4, 6, 7, 52 and 53 as set out in paragraph 4 of the complaint.

The District Court erred in not finding that the appellant is entitled to a patent containing Claims 1, 4, 6, 7 and 52 in the amended form as set forth in paragraph 5 of the complaint and Claim 57 as set forth in paragraph 6 of the complaint.

The District Court erred in holding that Claims 1, 4, 6, 7 and 52 in the amended form as set out in paragraph 5 of the complaint and Claim 57 as set out in paragraph 6 of the complaint were presented to the Patent Office too late to entitle the appellant to a determination of the patentability thereof and the District Court further erred in holding that the Court did not have jurisdiction in the action under Section 4915 of the Revised Statutes to rule on the patentability of said claims.

The District Court erred in not finding that the Wachs *et al.* Patent 1,213,308 dated January 23, 1917 is limited to the combination of bottle engaging jaws or bottle clamps inter-coacting with a bottle support to jointly support a bottle on a conveyor chain while the conveyor passes through the various washing operations of a bottle washer as disclosed in said patent.

The District Court erred in not finding that the Wynne *et al.* Patent 1,934,250 dated November 7, 1933 discloses a bottle pocket for loosely supporting bottles in a bottle washer without gripping the bottles around the mouth thereof; which confining pockets only support the bottles part of the time during the movement through the bottle washer; which bottle pockets were equipped with resilient fingers only so as to permit the expulsion of the bottles

from the pocket by forcing the same completely through the pockets, and which pockets must be used in conjunction with supporting rails for supporting the bottles and maintaining the bottles in the confining pockets during a portion of the travel of the bottles through the washer.

The District Court erred in not finding that the German patent to Ruprich No. 524,003 of 1929 is limited to a supporting device for the conveyance of bottles; which supporting device is provided with some fixed and some movable clamps for engaging bottles, in which supporting device all of the movable clamps are movable only in unison, in which patent no means for moving the movable clamps is disclosed and in which patent no independent means for supporting the bottles in bottle gripping position separate from the bottle gripping elements is disclosed.

The District Court erred in concluding that it was not invention to provide means for supporting bottles in proper bottle gripping position in view of the showing of the patent to Ruprich.

The District Court erred in affirming the decision of the Board of Appeals of the United States Patent Office.

SUMMARY OF ARGUMENT.

That all of the claims involved in this appeal are distinguishable from all of the prior art references taken singularly and in combination, and that the invention described by these claims constitutes a new, novel and useful improvement in bottle washers.

That the interpretation of a foreign patent relied on in the rejection of the claims involved in this appeal should be limited to what is specifically disclosed and taught in such foreign patent.

That the amended Claims 1, 4, 6, 7 and 52 and the new Claim 57 submitted to the Patent Office and considered by the Examiner and resubmitted to the Board of Appeals were properly before the District Court for the determination of the patentability thereof and that said Court had jurisdiction to consider the patentability of all of the claims mentioned in the complaint.

That the provision in a highly developed art of the useful, comparatively simple, economic and efficient bottle washer which was promptly accepted by the industry and which promptly became successful commercially constitutes persuasive evidence of invention.

ARGUMENT.

Applicants' Invention Involved in This Appeal Differs Greatly From the Prior Art.

The invention here in issue and the references relied on have been previously described and it is true that some of the prior art references relied on in the rejection of the claims here in issue do disclose some elements similar to some related elements mentioned in some of the claims. Appellants are, however, not attempting to secure a patent on any one element of the claimed combinations, but instead desire a patent on the combinations of elements set forth in the appealed claims.

Claim 1 (Appellant's App. 3) in addition to other structural features including laterally spaced conveyor elements and transversely supporting bottle frames, specifically calls for bottle gripping and supporting jaws with a pair of jaws, including one movable jaw associated with each bottle receiver and each of the movable jaws for all of the bottle receivers being independently movable.

Claim 4 (Appellant's App. 3) is distinguishable from the references of record among other reasons for the same reason as mentioned with respect to Claim 1 and in addition Claim 4 specifies that the jaw members which support the bottle, grip and the bottle adjacent the mouth thereof.

Claim 6 (Appellant's App. 4) specifies a structural combination of elements including a conveyor having a series of clamping elements for positively retaining bottles, combined with cam rails for mechanically releasing the successive bottle clamps as they pass the cam station all of which are combined with the elements positioned in the path of travel of the bottle grippers while in released position for

supporting bottles in proper gripping position until positively gripped by the bottle grippers or clamps.

Claim 7 (Appellant's App. 4) is distinguishable from the references of record among other reasons for the same reason as mentioned with respect to Claim 6. Claim 7 is further distinguishable from the references in that it specifies that the improved bottle conveyors are embodied in a bottle washer having loading and unloading stations, at which unloading station there are located independent elements for supporting bottles in proper clamping position.

Claim 52 (Appellant's App. 4) among other reasons is distinguishable from the references of record for the same reason as set forth above with respect to Claim 1.

Claim 53 (Appellant's App. 5) among other reasons is distinguishable from the references of record as set forth in Claim 4 above.

Amended Claim 1 (Appellant's App. 5) is distinguishable from the references of record for the same reasons as mentioned with respect to Claim 1 and for the further reason that it specifies that the gripping and supporting jaws have gripping faces removed from the bottle carrying frames and being complementary to the outer periphery of the mouth of the supported bottles.

Amended Claim 4 (Appellant's App. 5) is distinguishable from the references of record for the same reasons as mentioned above in connection with Claim 4 and for the further reason that amended Claim 4 specifies that the bottle gripping jaws are provided with elements spaced from the bottle carrying frames to grip the bottles about the mouths thereof.

Amended Claims 6 and 7 (Appellant's App. 6) are distinguishable from the references of record for the same reasons as mentioned above in connection with Claims 6 and 7 and for the further reason that amended Claims 6 and 7

specify that the elements for supporting the bottles in bottle gripping position while the bottle clamps or jaws are open are independent of the bottle grippers or jaws and are positioned at the station at which the bottles are loaded into the bottle washing machine.

Amended Claim 52 (Appellant's App. 6) is distinguishable from the references of record for the same reasons as set forth with respect to Claim 52 and for the further reason that amended Claim 52 specifies that the conveyor and bottle support arrangement specified therein is operated through bottle loading and unloading stations, at which stations the bottle grippers are opened by cams, all of which, are combined with independent bottle positioning means or elements positioned in the path of travel of the bottles being loaded into the conveyor at the loading station for positioning these bottles in proper position to be gripped by the bottle clamps or grippers.

Claim 57 (Appellant's App. 7), in addition to specifying a combination of elements set forth in Claim 1, includes the further recitation specifying independent structural elements located in the path of the travel of the bottles at the bottle loading station for elevating the bottles into proper position to be gripped by the bottle grippers or clamps. Claim 57 describes in substances the same combination of elements as set forth in Claim 1 of the Dostal Patent No. 2,210,529 (Appellant's App. 80).

**Applicants' Invention Is Not Anticipated by Wach, et al.
Invention.**

The Wachs *et al.* Patent No. 1,213,308 does not disclose the bottle carrying frames having a plurality of bottle receiving openings in which each of the openings is equipped with independently movable bottle gripping and supporting jaws for gripping the bottles only at the mouths thereof

and supporting the bottles out of contact with the remainder of the bottle supporting elements. On the contrary, Wachs *et al.* disclose fixed funnel-shaped bottle supports into which bottles may be locked by clamps carried by the funnel-shaped supports.

The witness Fogg testified (Appellant's App. 22, 23, 24, 31):

"Directing your attention now to the disclosures of figures 4, 5, 6 and 7 of the patent to Wachs, does it disclose a bottle-carrier having side bars and intervening partition means? A. No, I do not think it does.

"Q. Does it disclose bottle-engaging jaw members connected to such partitions? A. No.

"Q. Does it show a bottle-engaging jaw which is adapted to grip the bottle around the mouth of the bottle? A. No, above—below the mouth.

"Q. Would that be on the neck of the bottle? A. That would be on the neck of the bottle as shown here.

"Q. What else is there disclosed in the Wachs patent which will support the bottle? A. The bottle in the inverted position is held by contacting a funnel-shaped mechanism there, that—

"Q. Will you give the identifying number from figure 4 or 5? A. Figure 4. 19, I would say.

* * * * *

"Q. Would the bottle still be movable in a vertical direction even though the jaws were locked, directing your attention now particularly— A. From this drawing I wouldn't say it would be movable.

"Q. Directing your attention now particularly to figure 4 and to figure 5, in figure 4 the bottle is inverted, and in figure 5 the bottle is right side up. Would you say that there has been any relative motion of the bottle with respect to the funnel-shaped element? A. According to the drawing there has been here a motion. In the right position it drops down.

"Q. In other words, according to the disclosure of figures 4 and 5 of Wachs, the bottle is movable— A. That's right.

"Q. —and can slide, even though it is locked, in the Wachs type of bottle support? A. That's right.

* * * * *

"Q. How is the bottle or how is a bottle supported in the Wachs type of device while it is being clamped by the locking jaws? A. By the neck of the bottle contacting a funnel-shaped device above the clamp.

"Q. That funnel-shaped device is identified by what numeral? A. 19.

"Q. Does that funnel-shaped device constitute a part of the bottle support which carries the bottle through the washer? A. Yes.

"Q. It is not an independent means, in other words? A. No.

* * * * *

"By Mr. Cochran:

"Q. Will you refer to the Wachs patent, Mr. Fogg. As shown in figures 4 and 5 of that patent, isn't it true that the gripping jaws 25 grip the bottle somewhere near the mouth of it? A. Well, to me that would not be called the 'mouth' of them. Probably it might be. It is clear below the finish of the bottle there.

"Q. In other words, below the bead? A. Quite a bit, yes. It is below the finish. The bead is on the top and the finish is below the bead. I will have to give you my interpretation of that; and the clamp is below the finish. In other words, the clamp is on the neck of the bottle here as it would be termed I think, as we talk of it in the bottle industry."

* * * * *

The witness Fielder testified (Appellant's App. 40, 41):

"Q. I now direct your attention to the Wachs patent 1,213,308. Will you explain to me the manner in which the apparatus shown in that patent would support a bottle and grip the bottle, if it grips at all. A. The method of holding the bottle shows two devices. The first is shown in figure 4, most readily, part 19, which is a conical-shaped cup in which the bottle is

supported. The bottom of the cone contacts the neck of the bottle and prevents it from going through. Below 19 are two jaws, the part numbers 25, in figure 2. They lock the bottle at a point between the diameter at which they are supported in the cone, 19, and the bead of the bottle near its mouth.

“Q. Do these jaws constitute the only means of support for the bottle in the mechanism provided by Wachs? A. There are two means of supporting the bottle. As I said before, the jaws are not the only means. The jaws support the bottle as they are passing through the bottom of the machine in the soaking position. The bottle is right side up. That is shown in figure 5. The cone 19 supports the bottle when it is inserted and also supports the bottle in the top position of the machine when the bottle is passing through in an inverted position. Therefore there are two means of supporting the bottle in this invention, neither one of which alone would carry the bottle through the machine.”

* * * * *

The Wachs *et al.* patent very definitely does not disclose a bottle stabilizing and supporting element at the bottle loading station independent of the bottle grippers and supports on the bottle conveyor, by virtue of which independent means located in the path of bottle motion at the loading station the bottle is maintained in proper elevated relation to the gripping jaws while the jaws are open and while the jaws are being closed around the mouth of the bottle as the conveyor moves forwardly.

The witness Fogg testified (Appellant's App. 23, 24):

“Will you now look at the disclosure of the patents to Wachs and tell me whether that patent discloses a means disposed in the path of advance of clamping means when the clamping means are released, for supporting a bottle in proper position to be gripped by the clamps?

(The question was read for the witness by the reporter.)

"A. No, it doesn't.

"Q. What was your answer? A. No, it doesn't."

* * * * *

The witness Fielder testified (Appellant's App. 41, 42):

"Q. Is there anything shown in the patent to Wachs or the Ruprich patent or the Wynne patent which could possibly support a bottle in jaw-locking position similar to the provision 62 of the Trier-Fogg application?

(The question was read for the witness by the reporter.)

"A. Support 62 in the Trier-Fogg application is a spring-like bar in the loading position located in the path of travel of the jaws which receives the bottle when it is inserted in the machine. There is no such device in the Wynne patent, there is no such device in the Wachs patent, nor in the Ruprich patent.

"Q. In the Wachs patent is the bottle supported by anything or at any time prior to the gripping thereof by the jaws? A. Yes, the bottles are supported by cone 19."

* * * * *

It must, therefore, be concluded, in view of the unrebutted testimony of the witnesses as just referred to, and in view of the obvious disclosure of the patents to Wachs *et al.*, that the Wachs *et al.* invention does not anticipate the invention set forth in the appealed claims.

Applicants' Invention Is Not Anticipated by the Wynne, *et al.* Invention.

The Wynne *et al.* Patent No. 1,934,250 does not disclose a bottle conveyor having a series of bottle receiving openings in which each of the openings is equipped with independently movable bottle gripping and supporting jaws or clamps for securely gripping the bottles only about the mouths thereof and independently supporting the same out of contact with the rest of the bottle conveying elements of

the bottle conveyor and out of contact with the rest of the mechanism of the bottle conveyor and washer.

In the Wynne *et al.* bottle washer the bottle is loosely held in the bottle pocket. In fact, it is so loosely held that, during the travel of the bottle through the lower portion of the bottle washer, the weight of the bottle is supported on skids positioned below the path of the travel of the bottle pocket, which skids support the bottle and retain it within the bottle pocket so that the wall of the pocket may urge the bottle along the supporting skids or false bottom.

The witness Fogg testified (Appellant's App. 16, 17, 18, 21, 29, 30, 33, 34):

"Q. In the patent to Wynne was the bottle gripped by the mouth or the bead, or was it gripped at all?

A. It was not gripped at all.

"Q. In the conventional type of bottle-washer, what type of means is provided for supporting the bottle?

A. In general it is a pocket that has a nose in it, and the mouth or the bead of the bottle contacts the nose of the pocket and prevents it from going farther through, or holds it in the pocket.

"Q. Does it rest in such a pocket, that is, as it would rest in a sack, let us say? A. Similar to it. It is enclosed in metal. The bottle would be enclosed by metal, the nose of the bottle resting, or the mouth of the bottle resting on the nose of a pocket.

"Q. Would the bottle be free to shift around in such a conventional pocket? A. Sideways, in all directions, to a small extent, excepting when it is inverted—in the normal upright position, then it will drop down as far as the bottom of a bottle-washer would let it out of the bottom or the carrier that is carrying it.

"Q. Now, the pocket shown in the patent to Wynne—could the bottle fall out of the pocket at any time during its travel through the washer? A. If the bottle was too small in height as compared to the diameter of this pocket, then the bottle would turn over and fall out of this pocket.

"Q. In other words, the bottle was free to slide and move around in the pocket, it was not rigidly held?

A. That is right. In going through the submerging treatment the bottle drops whatever distance there is between the false bottom and the pocket.

"Q. Will you read to me from the Wynne patent, the paragraph on page 3, commencing with line 22?

A. 'A series of flat metal strips 73 are secured by angle members 74 in the tank and underlie the path of movement of the bottle carriers of the conveyor. These strips are provided so that the bottom of the bottles may rest on the same as the bottles are moved to the soaking bath and to prevent dislodgement of the bottles should some of such bottles be smaller than the carriers. The strips 73 are curved upwardly at each end to conform with the path of movement of the conveyor through the soaking tanks.'

"Q. From your understanding of the Wynne patent and your familiarity with the machines which were built in keeping with the disclosure of the Wynne patent, was such a strip necessary to keep any size of bottle from falling out of the bottle pockets of the Wynne patent? A. It was, and that was general practice on all soakers type washers at that time.

* * * * *

"Q. In the Baltimore washer, do you provide skids or slides below the pocket so that the bottles cannot fall out of the pocket? A. None whatever.

* * * * *

"Q. You have seen it on the Wynne type machine? A. I have seen it, yes, on those machines.

"Q. Will you sketch for me a milk bottle of the conventional type which is provided with the uniform diameter between the bead and the neck at the body of the bottle as you mentioned before, and show its relative position when it would be held in a pocket such as the Wynne pocket? A. (The witness draws a sketch as requested.) Where do you want it, now?

* * * * *

"Q. In other words, you agree with the objectives as I quoted to you from the Wynne patent, that in the Wynne machine the bottles are never supported by the crown of the bottle? A. Yes, are never supported by a crown or finish.

* * * * *

"Q. You do not dispute that the members 66, 67, and 68 are spring fingers, do you? A. That is a 1-piece stamping.

"Q. Yes. A. And they are made fingers by making a stamping out of it. Now those fingers do not carry the bottle through the machine. They prevent the bottle from dropping out of that carrier or pocket when it becomes in the inverted position. When it becomes in an upright position it drops the distance between the bottom of the pocket and the bottom of the carrier, is that clear? Then when it goes around and the bottle becomes in the inverted position that bottle moves back into that pocket whatever distance it might be for the body of that bottle or the breast of that bottle to contact that pocket or as he terms it 'spring fingers' there, but there is no spring tension holding the bottle in that carrier at all and there isn't any tension on that bottle at all until the plunger that discharges the bottle forces that bottle out the nose of the carrier. As he says here, you can take the bottle out either way. He has no means whatever. If you could take it out either way and these fingers contacted or had a clamp, or a clamp on the bottle, then you couldn't pull that bottle out the way it went in, but he states here it can be taken out either way. Now those 'fingers' as it is called here are there to hold the bottle from going clear through the pocket until the kick-out mechanism or the plunger strikes the bottom of that pocket and forces it out through the front of the machine to a turntable. That is the only time there is any tension on the bottle in that machine.

* * * * *

"Q. In other words, in the Wynne patent, the fingers of the bottle pocket grip the bottle on the neck of the bottle at a point where the diameter of the neck is substantially larger than the outer diameter of the bead? A. That's right.

"Q. Is it by virtue of that fact that the bottle could drop out of the pocket while passing through the bottom of the bottle-washer if the retaining strip 73 had not been provided? A. Yes.

"Q. In other words, any size of bottle would drop out of that pocket if that strip were not provided? A. That is right.

"Q. And in the figure 4 the bottles shown in the Wynne patent are supported solely on the strip, is that correct? A. As they travel through the soaking solution, that is right."

* * * * *

The witness Fielder testified (Appellant's App. 37, 38, 39):

"Q. I direct your attention now to the Wynne patent, 1,934,250. Will you describe to me the manner in which the disclosure of that patent differs from the disclosure of the instant application, and if possible point out the elements of the specification which support your opinions? A. The first major difference that I see is that the Wynne patent does not show gripping jaws that hold the bottle. This is brought out in the object of the patent. On line 10, the first page, it states: 'The present machines are not completely satisfactory in that it is impossible to wash bottles of different sizes indiscriminately inserted in the machines, and furthermore the present machines grip the bottles by the crowns for movement through the machines.' In other words, it was not the object of this invention of Wynne's to provide a gripping means for holding the bottle at the crown. He states at line 26: 'The machine of the present invention on the other hand will without adjustment wash bottles of different sizes and also convey the bottles through the machine by engagement of the body of the bottle leaving the crowns free.'

"Q. Is there anything in the drawing of the Wynne patent which clearly shows that the washer designed by Wynne incorporated the last mentioned objective, that is, in other words, a bottle-washer in which the pockets do not grip the bottle but in which the bottle is supported by other means as it passes through the washer? Is that shown in the Wynne figure? A. That is shown in figure 4 and particularly figure 6. Figure 6 shows a cylindrical container for the bottle and is described on page 2, line 138. 'At intervals in the length thereof'—may I go back just a little further? At line 134: 'The conveyor as a matter of fact comprises two chains 63 and 64 which chains are arranged along each side of the casing and are cross connected at intervals in the length thereof by members 65 which in turn are provided with a plurality of bottle carriers or spring cups. There are four such cups illustrated as being carried by one of said cross members.' Now these carriers have springs 67 and 68 shown in figure 6 that contain the bottle, they hold the bottle, they do not grip the bottle. Those springs are provided so that the bottle may be ejected or pushed through them. They are not for the purpose of gripping the bottle. The time when they support the bottle is when they are passing as shown in Figure 4 at the top of the figure, when they are passing through the upper portion of the machine carrying the bottle in an inverted position. At that time the bottle rests on those springs where its breast or a portion of the narrower portion of the breast rests against spring 67 at about the place where the part number is shown.

* * * * *

"Q. You are employed by the Cherry-Burrell Corporation in the capacity of an engineer or in charge of engineering development, is that correct? A. Yes, sir.

"Q. In your opinion as an engineer would the bottles drop out of the pockets of the patent to Wynne of their own weight if the skids or slides 73 positioned below the rows of bottle pockets in the bottom of the

bottle-washer were not provided? A. The bottle would drop out without the skids 73.

"Q. If the bottle were gripped in any way whatsoever would it drop out? If it were gripped by the spring fingers would it be likely to drop out? A. No, if the spring fingers were designed to grip the bottle and hold it that way then they would not drop out and there would then be no need for skid 73.

"Q. In your opinion then there is nothing of the nature of a bottle-gripping and supporting jaw disclosed in the Wynne patent, is that correct, such as is called for? A. There is nothing in the nature of a bottle-gripping jaw. So far as support is concerned—yes."

* * * * *

The Wynne *et al.* patent discloses a commercial type of bottle washer differing primarily from the conventional arrangement by the provision of bottle pockets formed of resilient fingers which are spreadable so as to permit the ejection of bottles from the pockets by pushing the bottles through the restricted throats of the pockets.

The witness Fogg testified (Appellant's App. 27, 28, 29, 34):

"Cross-Examination by Mr. Cochran.

"Q. Mr. Fogg, what do you suppose that the purpose of the spring finger 67 and 68 is in figure 6 of the Wynne patent? A. That was merely to make a flexible means whereby they could force a bottle through, straight through the pocket of the machine into a turn-table that would turn and drop it on to an elevator—that would eventually drop it on to a conveyor to convey it to the bottle-filling machine.

"Q. You say they are made so that they could be pushed out of the way? A. So that they can be discharged to another machine where they will be filled.

* * * * *

"Q. But in your view the bead on the mouth of the bottle, the diameter of that bead is smaller than the normal diameter of the space between the spring arms? In other words, will the bottle bead pass through the spring or arms? A. Yes, sir.

"Q. Without touching them? A. Yes, sir, without clamping or developing any friction there at all.

"Q. Do you find anything in the patent that supports that view? A. I do on the drawings here, sir. If you will refer to the drawings here you will find that the mouth of the bottle was held by the clamp there and it would not be necessary to have a false bottom in this washer, or strips to hold the bottles in place, as he calls it here.

"Q. Does he not say that false bottom or strip 73 is for the purpose of taking care of those smaller bottles which would drop out? A. Well, those smaller bottles would not drop out if they were clamped by the fingers of this pocket, because the finish of bottles is 56 mm. regardless of whether it is a quart, pint, or a half pint, so if it would hold a quart, the larger bottle, it would necessarily hold the pint bottle and the half-pint bottle, therefore they would not require any means at the bottom of the pocket to hold those bottles.

"Q. You mean then that that strip is required for all bottles and not for what the patentee says, just for a few of the smaller ones? A. That is correct, sir; that is correct.

* * * * *

"Q. In the Wynne disclosure would the bottles be supported in exactly the same manner if the fingers are rigid as they are if the fingers are made of springs? A. Yes, sir; that's right; they would."

* * * * *

The witness Fielder testified (Appellant's App. 38, 45):

"Q. Is there any indication in the patent that while the bottle is being pushed into the pocket the spring fingers are dilated or moved in any way whatsoever?

A. Not that I have been able to find. The only place

that the description or the specification tells about the springs opening is when the piston 153 on figure 4 pushes the bottle through the pocket expanding the springs and delivering the bottle into the rotating carriage 152.

* * * *

“Q. Well, let me ask you this. Whether you said it or not, my question would be this: If the springs were made stiffer than they may be here, could they not grip the bottle? A. I do not think so.

“Q. What would be your reason for saying that, that they could not be made stiff enough to grip and hold the bottles? A. I would say that if they are made stiff they would then become a conventional pocket that holds the bottle just as a container would hold it, by resting in the pocket.”

* * * *

In view of the unrebutted testimony of the witnesses as above referred to and in view of the disclosure of *Wynne et al.*, which wholly supports such testimony, and the quoted statements of the patent to *Wynne et al.* in which *Wynne et al.* particularly points out that one of the objects of their invention is to avoid gripping the bottle around the mouth thereof, it must be concluded that the patent to *Wynne et al.* does not anticipate the invention specified in the appealed claims.

Applicants' Invention Is Not Anticipated by Ruprich's Invention.

The German patent to Ruprich No. 524,003 does not disclose a bottle conveyor provided with a series of bottle receiving openings in a bottle conveying frame formed of side bars and partitions in which each of the openings is provided with at least one independently movable bottle gripping and supporting jaw for securely gripping a bottle only at spaced points around the mouth of the bottle.

The witness Fogg testified (Appellant's App. 21, 22, 31):

"Q. I direct your attention first to the German patent to Ruprich, No. 524,003. Does the patent to Ruprich disclose 'laterally spaced conveying elements'? A. No, it does not.

"Q. Does it disclose rigid work supporting frame connected at its ends to such conveyor elements? A. Not according to this drawing.

"Q. Does it show 'work supporting frame having transversely extending partitions'? A. No.

"Q. Does it show 'jaws associated with opening in a work supporting element for gripping some portion of a bottle'? A. I would say it did.

"Q. How many such jaws does the figure of the Ruprich patent show? A. I would think it was four.

"Q. In your opinion, based solely on the disclosure of that figure, are any of those jaws independently movable, or are they all movable— A. According to the way I read the drawing here they are not. They all four move at the same time.

"Q. Is there any means shown for moving any of the jaws? A. Independent?

"Q. Or any means for actually causing the motion there? Can you see any means in the figure for actually moving any one of the jaws? A. Not independently of the other one. They all move together collectively.

"Q. Is there any means shown for actually making the jaws move as shown in that figure, or would something have to be added to that figure, that disclosure, before those jaws would move or could be moved? A. I wouldn't know how they would move from this drawing here, I couldn't tell.

"Q. In your opinion there is nothing shown as to how those jaws would be actuated? A. No.

* * * * *

"Q. Well, except the little wheels 'D' you mean? A. The little wheels 'D' wouldn't—or, act on the clamping member here, but there are no means shown here as I can see it of conveying these bottles."

* * * * *

The witness Fielder testified (Appellant's App. 39, 40):

"Q. Does the Ruprich disclosure include means for moving the bottle-support mechanism shown in that patent? A. The drawings are very incomplete. There is shown on either side of figure 2 what appears to be a camway. Each of those camways has a raised portion which would cause the rollers D to change their path of direction, but there is nothing shown that would cause a relative motion between the clamping jaws (i) and the fixed jaws 'B'. In other words, as shown, the whole mechanism would move with the rollers and what appear to be the cams that cause their change in direction. There is nothing in other words that produces a relative motion that would clamp the bottle into the jaw.

"Q. If a conveyor chain were to be attached to the device shown in the figures of the Ruprich patent and that device moved along that camway by tension on the chain, would that actuate the bottle pockets? A. No, not necessarily. The chain, being flexible, would flex with the action of the cam jaws on rollers D and it would not necessarily follow that any movement or any relative motion of the jaws themselves would take place.

"Q. Would it in your opinion be necessary to add something to the disclosure of the Ruprich patent in addition to a conveyor chain, which would move that device, before that device would operate, before any jaw would move? A. Yes, that would have to be done.

"Q. Do you see anything of such a nature in that disclosure? A. No, there is nothing shown there.

"Q. Are the jaws of the Ruprich patent individually movable? A. No. There are four jaws (i) shown and they are all attached to a common bar so that if a means is provided for making them work they would all attempt to grip a bottle at once, and if one bottle happened to be larger in diameter than another then the others would not be gripped.

"Q. Assuming now that a conveyor chain were attached to the bottle-supporting element shown in the patent to Ruprich and the conveyor chain moved would it in your opinion then be an operative device

satisfactory for opening and closing so that bottles could be inserted and removed? A. No, simply the addition of a chain would not render it a satisfactory operating device.

"Q. Could it operate satisfactorily in so far as you could see by merely the addition of a chain? A. No, it could not make the jaws move open or closed to grip the bottles.

* * * * *

In Ruprich the movable jaws of the bottle carrier are not independently movable as clearly established from the above explanation of the Ruprich patent. In Ruprich no means is disclosed in the drawings or in the specification for opening the bottle engaging jaws at the loading and unloading stations. Neither does the Ruprich patent disclose bottle supporting elements independent of the bottle conveyor and particularly independent of the bottle gripping jaws but located in the path of travel of the gripping jaws while open for supporting the bottles in proper bottle-gripping position at the bottle-loading station until the bottles are gripped by the clamping jaws.

The witness Fogg testified (Appellant's App. 24, 34, 35):

"Q. Now, does the patent to Ruprich disclose such a means for supporting a bottle in gripping position while jaws are open? A. Yes.

"Q. And what is that element? A. Well, I would think it was 'B'.

"Q. Does it form a part of the bottle-gripping means, or is it independent of the bottle-gripping means? A. Part of the bottle-gripping means.

"Q. Is it a part of one of the gripping jaws shown in the Ruprich patent, or an extension of the jaw? A. I would say it was an extension of that plate there, whether that is part of the jaw or not.

"Q. It is the element identified by the letter 'B', did you say? A. It looks like 'B' to me.

* * * * *

"Now does the patent to Ruprich disclose a cam means in the path of travel of the bottle-gripping jaws for releasing the jaws? A. No.

"Q. It does not, you say? A. No, it does not.

* * * *

"Q. With respect to the Ruprich patent, on direct examination you stated you did not see how the pockets shown in the Ruprich patent would be opened. On cross-examination you stated you did. Will you tell me, looking particularly at figure 2, what would happen with respect to the two jaws when the rollers D move over the cam, and what would happen with respect to the carrying plate? Would there be any relative motion between the two jaws, or would the whole mechanism, since both cams are the same, just move over bodily and nothing happen at all? Which of the two would take place? A. Well, the way I read this patent here, this paper, this blueprint, here, the whole thing would move over."

* * * *

In view of the unrebutted testimony of the witnesses Fogg and Fielder and in view of the insufficiency of the disclosure of the patent to Ruprich, either in the drawings or the specification thereof, it must be concluded that the disclosure of the Ruprich patent does not anticipate the invention set forth in the appealed claims.

The Question of Whether Invention Is Involved Should Be Decided Upon the Evidence.

This Court has frequently applied the principle that the question of patentability of the invention should be determined by the evidence which demonstrates the novelty and usefulness of the invention and the effect of the invention upon the industry which had before it the problem which was solved by the invention. The mere fact that some of the parts of the claimed combination are disclosed

in separate prior art patents but are not disclosed in combination with the remaining elements as specified in the claims and the additional fact that changes over the prior art now appear simple in retrospect should not be considered as suitable proof that an invention was not made. In *Levin v. Coe*, 76 App. D. C. 347, 132 F. 2d 589, 596, this Court held:

"In *Carbide and Carbon Chemicals Corporation v. Coe*, 69 App. D. C. 372, 102 F. 2d 236 (40 U. S. P. Q. 141) (1938), and again in *Thornton v. Coe*, 69 App. D. C. 383, 102 F. 2d 247 (40 U. S. P. Q. 85) (1938), we recognized the principle that satisfaction by a method or device of an old and recognized want is highly persuasive of invention. The basis of that doctrine is that otherwise the mere skill of the art would normally have been called into action by the known want. The doctrine is authenticated by leading cases too numerous to mention. We cited them in the two cases just referred to.

"It is also settled in the law of patents that the fact that all of the elements entering into a combination are old does not necessarily negative the existence of invention. *Diamond Rubber Co. v. Consolidated Rubber Tire Co.*, 220 U. S. 428 (1911); *Iron Fireman Mfg. Co. v. Industrial Engineering Corp.*, 89 F. 2d 904 (33 U. S. P. Q. 277) (C. C. A. 7th, 1937). Such a combination may be patentable invention if it produces a new result, or an old result in a new or more efficient way. *Independent Oil Well Cementing Co. v. Halliburton*, 54 F. 2d 900 (12 U. S. P. Q. 175) (C. C. A. 10th, 1932, certiorari denied, 286 U. S. 544 (1932); *N. O. Nelson Mfg. Co. v. F. E. Myers & Bro. Co.*, 25 F. 2d 659 (C. C. A. 6th, 1928), certiorari denied, 287 U. S. 617 (1932); see Walker on Patents (Deller's ed. 1937) 147-149. The fact that the combination later appears to be a simple one does not necessarily negative the presence of a high degree of inventive genius. *Loom Company v. Higgins*, 105 U. S. 580 (1881); *Diamond Rubber Co. v. Consolidated Rubber Tire Co.*, *supra*. We recognized these principles in *Electrons, Inc. v. Coe*, 69 App. D. C. 181, 99 F. 2d 414 (38 U. S. P. Q. 370) (1938)."

This Court, in *Electrons, Inc., et al. v. Coe*, 69 App. D. C. 181, 99 F. 2d 414, reached a similar decision.

In the well recognized decision in *Carbide and Carbon Chemicals Corporation, et al. v. Coe*, 69 App. D. C. 372, 102 F. 2d 236, this Court stated:

“* * * If from the prior art or from the properties of the thing substituted, the substitution was obvious, no patent is allowable. If, on the contrary, it was not obvious, if inventive capacity was required to see the applicability to the use in question of the thing substituted, and the advantage in new and useful results or increase in efficiency or saving in operation, then a patent is to be granted. In terms of a quotation from *Low v. McMaster*, 266 F. 518, 519-20 (C. C. A. 3d, 1920), the law has been well epitomized thus:

‘On this subject it is the law, that merely to substitute superior for inferior materials, in making one or more or all of the parts of a machine or manufacture, is not invention, although the substitution may be of materials that are both new and useful in high degree. It is also the law, as exceptions to this general rule, that if the substitution involved a new mode of construction; or if it developed new properties and uses of the article made; or where it produces a new mode of operation, or results in a new function; or when it is the first practical success in the art in which the substitution is made; or where the practice shows its superiority to consist not only in greater cheapness and greater utility, but also in more efficient action, it may amount to invention.’ (66 App. D. C. at 340, 87 F. 2d at 557.)”

The aforementioned decisions of this Court are well in keeping with the well established tenure of the decisions of the Supreme Court of the United States as set forth in *Seymour v. Osborne*, 78 U. S. 516, 548, in which it was said:

“Particular changes may be made in the construction and operation of an old machine so as to adapt it to a new and valuable use not known before, and

to which the old machine had not been, and could not be, applied without those changes, and, under those circumstances, if the machine, as changed and modified, produces a new and useful result, it may be patented, and the patent will be upheld under existing laws.

"Such a change in an old machine may consist merely of a new and useful combination of the several parts of which the old machine is composed, or it may consist of a material alteration or modification of one or more of the several devices which entered into its construction, and whether it be the one or the other, if the change of construction and operation actually adapts the machine to a new and valuable use not known before, and it actually produces a new and useful result, then a patent may be granted for the same, and it will be upheld as a patentable improvement."

The Supreme Court in *Webster Loom Co. v. Higgins*, 105 U. S. 580, 591, 26 L. Ed. 1177, stated:

"* * * it is plain, from the evidence and from the very fact that it was not sooner adopted and used, that it did not, for years, occur in this light to even the most skillful persons. It may have been under their very eyes, they may almost be said to have stumbled over it; but they certainly failed to see it, to estimate its value, and to bring it into notice. * * * Now that it has succeeded, it may seem very plain to any one, that he could have done it as well. This is often the case with inventions of the greatest merit.' See, also, *Expanded Metal Co. v. Bradford*, 214 U. S. 366, 381, 29 S. Ct. 652, 53 L. Ed. 1034; *Krementz v. S. Cottle Co.*, 148 U. S. 556, 560, 13 S. Ct. 719, 37 L. Ed. 558; *Du Bois v. Kirk*, 158 U. S. 58, 63, 15 S. Ct. 729, 39 L. Ed. 895; *General Electric Co. v. Hill-Wright Electric Co.*, 2 Cir., 174 F. 996, 998; *Brick v. Namm & Sons*, D. C. E. D. N. Y., 22 F. 2d 693, 695, affirmed, 2 Cir., 22 F. 2d 697."

The basis of the aforementioned decisions was again reiterated in *Sharp v. Coe*, 75 App. D. C. 118, 125 F. 2d 185, 188, 189. In that case this Court stated:

"In respect of the question whether the allowed

claims may be used as a measure of the patentability of the rejected claims: We are in agreement that the action of the Commissioner on allowed claims is not to be taken as a conclusive measure of the patentability of rejected claims. Patentability of the latter must be determined ultimately by comparison with the prior art. *In re Zalkind*, Cust. & Pat. App. 1941, 118 F. 2d 356; *In re Farrand*, Cust. & Pat. App. 1931, 49 F. 2d 1035, 1038. And see *In re Eitzen*, Cust. & Pat. App. 1936, 86 F. 2d 759, 760. But we are also agreed that, in connection with such other items of evidence as may be relevant, the action of the Commissioner on allowed claims can be taken into consideration in determining the patentability of rejected claims. *Minnesota Mining & Manufacturing Co. v. Coe*, D. C. U. S. Dist. Col. 1939, 28 F. Supp. 80, 82. And see *Cothran v. Coe*, D. C. U. S. Dist. Col. 1941, 38 F. Supp. 984, 989; *Raytheon Mfg. Co. of Newton, Mass v. Coe*, 1938, 68 App. D. C. 255, 257, 96 F. 2d 527, 529; *In re Davis*, Cust. & Pat. App., 77 F. 2d 640, 643. Cf. also *Poulsen v. Coe*, 1941, 73 App. D. C. 324, 119 F. 2d 188, 199; *Fessenden v. Coe*, 1938, 69 App. D. C. 193, 199, 99 F. 2d 426, 432; *In re Engelhardt*, Cust. & Pat. App. 1930, 40 F. 2d 760, 762. Contra: *In re Borden*, Cust. & Pat. App. 1934, 68 F. 2d 983, 984. * * *

A similar decision was reached in *Thornton v. Coe*, 69 App. D. C. 383, 102 F. 2d 247, in which it was said:

“* * * ‘Where the method or device satisfies an old and recognized want, invention is to be inferred, rather than the exercise of mechanical skill. For mere skill of the art would normally have been called into action by the generally known want. See *Loom Co. v. Higgins*, 105 U. S. 580, 591; *Krementz v. Cottle Co.*, 148 U. S. 556, 560; *Hobbs v. Beach*, 180 U. S. 383, 392; *Carnegie Steel Co. v. Cambria Iron Co.*, 185 U. S. 403, 429, 430; *Expanded Metal Co. v. Bradford*, 114 U. S. 366, 381.’ *Paramount Corp. v. Tri-Ergon Corp.*, 294 U. S. 464, 474 (24 U. S. P. Q. 303) (1935). We think the Thornton device is clearly patentable within the elementary principles governing combinations and

illustrated in *Loom Co. v. Higgins and Diamond Rubber Co. v. Consolidated Rubber Tire Co.*, *supra*. See also *Wach v. Coe*, 64 App. D. C. 235, 77 F. 2d 113 (25 U. S. P. Q. 25) (1935); *In re Eastwood*, 33 App. D. C. 291 (1909)."

See also:

Potts & Co. v. Creager, 155 U. S. 597, 15 S. Ct. 194, 39 L. Ed. 275.

H. H. Robertson Company v. Klauer Manufacturing Company, 38 U. S. P. Q. 203.

Lombard et al. v. Coe, 33 F. Supp. 440.

Kelley et al. v. Coe, 69 App. D. C. 202, 99 F. 2d 435.

The Interpretation of a Foreign Patent Should Be Limited to What It Specifically and Clearly Teaches.

That a foreign patent, such as the German patent to Ruprich relied on by the Patent Office in the rejection of the claims involved in this appeal, must be limited to what is clearly taught therein and that it is improper to credit the disclosure in a foreign patent with implied teachings which may be vaguely hinted at therein has been definitely stated by this Court in *Baldwin-Southwark Corporation et al. v. Coe*, 76 App. D. C. 412, 133 F. 2d 359, 365, 366, in which it was said:

"* * * As was said in the leading case of *Seymour v. Osborne*, 1870, 11 Wall. 516, 555, 20 L. Ed. 33, an infringement proceeding, the defense or invalidity of the patent in suit because described in a foreign publication is not made out unless it is shown that 'the description and drawings (of the foreign publication) contain and exhibit a substantial representation of the patented improvement, in such full, clear and exact terms as to enable any person skilled in the art or science to which it appertains, to make, construct, and practice the invention to the same practical extent as they would be enabled to do if the information was derived from a prior patent. Mere

vague and general representations will not support such a defense, as the knowledge supposed to be derived from the publication must be sufficient to enable those skilled in the art to understand the nature of the invention, and to carry it into operation.' It is not competent to read into a foreign publication any information which it does not afford on its face. *Badische Anilin & Soda Fabrik v. Kalle*, C. C. S. D. N. Y. 1899, 94 F. 163, affirmed 2 Cir., 1900, 104 F. 802; *Loew Filter Co. v. German American Filter Co.*, 6 Cir., 1908, 164 F. 855; *Carson v. American Smelting & Refining Co.*, 9 Cir., 1925, 4 F. 2d 463, certiorari denied, 1925, 269 U. S. 555, 46 S. Ct. 18, 70 L. Ed. 409. The disclosure of a foreign publication must be so clear that it teaches the subject matter of the patent in suit without assistance from the latter. *Wisconsin Alumni R. Foundation v. Breon & Co.*, 8 Cir., 1936, 85 F. 2d 166, certiorari denied, 1936, 299 U. S. 598, 57 S. Ct. 191, 81 L. Ed. 441. Moreover, as was held in *Atlantic Gulf & Pacific Co. v. Wood*, 5 Cir., 1923, 288 F. 148, 155, quoting from *Cimiotti Unhairing Co. v. Comstock Unhairing Machine Co.*, C. C. S. D. N. Y. 1902, 115 F. 524, a case itself based upon *Seymour v. Osborne*, 'A' (foreign) document so obscure in its terminology that two conflicting theories may be deduced therefrom and supported by equally plausible arguments is too indefinite to be utilized as an anticipation.' These principles, although applied by the courts referred to in infringement suits, are equally applicable to proceedings to obtain a patent. *Becket v. Coe*, 1938, 69 App. D. C. 51, 98 F. 2d 332. That is to say, a foreign publication cannot operate to anticipate a claimed invention unless it satisfies these principles."

The Supreme Court of the United States in *Expanded Metal Co. v. Bradford*, 214 U. S. 366, 385, 29 S. Ct. 652, 53 L. Ed. 1034, reached a similar decision. In that case it was said:

" 'The disclosure of a foreign patent is to be measured not by what may be made out of it, but what is clearly and definitely expressed in it.' *Davies v. Coe*, 65 App. D. C. 345, 346, 83 F. 2d 602, 603; *Becket v. Coe*, 69 App. D. C. 53, 98 F. 2d 332."

The German patent to Ruprich obviously does not clearly anticipate the invention covered by the claims involved in this appeal, particularly not with respect to Claims 6 and 7. That such lack of anticipation was present was impliedly acknowledged by counsel for the defendant in the closing argument before the District Court at which time the counsel for the defendant made the following statement (Tr. 105):

“Now ‘the means disposed in the path of advance of the clamping means when mechanically released for supporting the bottles in proper position to be clamped’ is a little harder to find, I must confess. It is true when you put the bottles in there the ledges C will support the bottle without clamping apparently, but to say that means C is disposed in the path of advance of the clamping means seems a little bit strained, to me.”

See also *Nye v. Coe*, 44 F. Supp. 582, *Davies v. Coe*, 65 App. D. C. 345, and *Selectasine Patents Co. et al. v. Presto-O-Graph Co., et al.*, 267. F. 840.

The Claims Presented to the Patent Office by Amendment Are Not Within the Scope of the Decision in Lucke, et al. v. Coe, 63 App. D. C. 61.

As previously pointed out, the District Court held that it did not have jurisdiction to decide on the patentability of the claims which were presented to the Patent Office by an amendment filed promptly after the first decision of the Board of Appeals and again submitted to the Patent Office by reference in a petition to the Board of Appeals for reconsideration of its previous decision and for the consideration of the rejected claims in an amended form. The decision of the District Court was apparently based on the decision of this Court in *Lucke v. Coe, supra*. In that case, however, the claims which were held to be not properly before the court had not been presented to the

Patent Office, were not included in the certified copy of the contents of the file wrapper of the application involved in *Lucke v. Coe*, and had not been presented to the Board of Appeals while the case was pending before the Board, all of which distinguishes the holding of *Lucke v. Coe* from the facts in the case now before this Court. In *Lucke v. Coe* the claims, with respect to which the court held that it did not have proper jurisdiction, were presented for the first time in an amendment to the complaint filed with the District Court. Claims which have been presented to the Patent Office, particularly claims which have been presented to the Board of Appeals of the Patent Office after the Board has considered the case and given its decision but while the Board of Appeals still has jurisdiction, and which claims, even though presented to the Board of Appeals, are not acted upon by the Board of Appeals, should be considered to have been rejected by the Board of Appeals and, therefore, constitute claims which may be properly considered by the District Court, as clearly set forth in *Degea Aktiengesellschaft (Auergesellschaft) et al. v. Coe*, 34 Fed. Sup. 94, in which it was stated:

“* * * The Board of Appeals did not consider or act upon the claims as so modified, presumably because such Board did not have the advantage of consideration of such claims by the primary examiner. They must, therefore, be considered to have been rejected.”

Obviously the Court should have considered this case not as an appeal but as a proceedings *de novo* as clearly set forth in *New Wrinkle, Inc., et al. v. Coe*, 31 F. Supp. 415, in which it was said:

“Ever since *Butterworth v. Hoe*, *Butterworth v. United States*, 112 U. S. 50, 5 S. Ct. 25, 28 L. Ed. 656, it has been held that the proceedings under R. S. Sec. 4915 is not a technical appeal from the Patent Office but is a proceeding *de novo*.”

Certainly the Court in view of the Dostal Patent No.

2,210,529 should have considered the amended claims submitted by the applicants in the case here on appeal in view of the decision in *Monopower Corporation et al. v. Coe*, 33 F. Supp. 934, in which it was stated:

“* * * Where an applicant discloses a mechanism which performs a new and useful function by such substantially similar mechanical operation as a mechanism disclosed in an application subsequently filed, there should be, by some appropriate means, a determination as to priority of invention before a patent is denied to the first applicant. * * *”

See also *Kaplan v. Robertson, Commissioner of Patents*, 50 F. 2d 617; *Schiller v. Robertson, Commissioner of Patents*, 28 F. 2d 301.

Commercial Success Is Indicative of Invention.

While mere commercial success is not conclusive on the question of whether or not invention was involved, the authorities uniformly consider such evidence of popular approval of the invention as a factor which should be considered in the determination of the question of patentability. The fact that hundreds of bottle washers embodying the invention here in issue were manufactured and sold by the appellant in a highly competitive and well developed industry should be worthy of considerable weight in determining the patentability of the invention in issue. The observations of the Seventh Circuit Court of Appeals, speaking through Judge Alschuler, in *Wahl Clipper Corporation v. Andis Clipper Co. et al*, 66 F. 2d 162, is significant in this respect.

The decision of this court in *Thornton v. Coe, supra*, is also pertinent.

In *Carbide & Carbon Chemicals Corporation et al v. Coe, supra*, this Court stated:

“It is equally well settled that commercial success is strong evidence of utility and patentability. Walker on Patents (6th ed., 1929) Sec. 126. In *Yablick v.*

Protecto Safety Appliance Corp., 21 F. 2d 885, 887, 3 Cir., 1927, it was stated that the fact that a process comes immediately into general use and replaces all other like processes is persuasive of invention. This was said upon the faith of *Minerals Separation, Ltd. v. Hyde*, 242 U. S. 261, 270, 37 S. Ct. 82, 61 L. Ed. 286, 1916, where it was held that the fact that a process was 'immediately generally accepted as so great an advance over any process known before that, without puffing or other business exploitation, it promptly came into extensive use * * * and * * * largely replaced all earlier processes * * * of itself is persuasive evidence of that invention which it is the purpose of the patent laws to reward and protect.' "

Conclusion.

It is respectfully submitted in conclusion that the invention set forth in the appealed claims has materially advanced the progress of the useful arts and is an invention which was not obvious but instead necessitated the exercise of inventive ingenuity.

It is further submitted that the applicants' invention, as claimed in the appealed claims, is not anticipated by the prior art references of record and that all of the claims set forth in the complaint were properly before the District Court and that this Court should reverse the decision of the District Court and remand the case to the District Court for entry of a judgment adjudging that appellant is entitled according to law to receive a patent on the said invention including the appealed claims.

Respectfully,

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UNITED STATES
COURT OF APPEALS FOR THE
DISTRICT OF COLUMBIA

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Joseph A. Starnes

CLERK

BRIEF FOR APPELLEE

In the United States Court of Appeals for the
District of Columbia

APPEAL NO. 8487

CHERRY-BURRELL CORPORATION, APPELLANT

v.

CONWAY P. COE, COMMISSIONER OF PATENTS, APPELLEE

APPEAL FROM THE JUDGMENT OF THE DISTRICT COURT OF THE
UNITED STATES FOR THE DISTRICT OF COLUMBIA

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(I)

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***APPEAL FROM THE JUDGMENT OF THE DISTRICT COURT OF THE
UNITED STATES FOR THE DISTRICT OF COLUMBIA***

BRIEF FOR THE COMMISSIONER OF PATENTS

This is an appeal from the judgment (160)¹ of the District Court of the United States for the District of Columbia dismissing the Complaint (1) brought by appellant under Section 4915 R. S. (U. S. C., title 35, sec. 63) to obtain the issuance of a patent containing claims 1, 4, 6, 7, 52, and 53 of the patent application of Carl L. Trier and Jesse W. Fogg, Serial No. 141,084, relating to bottle washing machinery. The application is assigned to appellant.

¹ The numbers in parentheses in this brief refer to pages of Appellant's Appendix.

STATEMENT

Fifteen claims (179-184) of the application were allowed by the Patent Office but the six appealed claims were held unpatentable for lack of invention in view of certain prior patents.

Subsequent to the decision (153) of the Board of Appeals of the Patent Office, appellant presented amendments (47) to claims 1, 4, 6, 7, and 52 and presented a new claim 57 (48). The amended claims and the new claim appear in paragraphs 5 and 6 of the Complaint (5-7). The examiner refused (54) to enter the amendments or the new claim and the Board of Appeals refused (60) to consider the amended claims or the new claim. The lower court concluded as a matter of law (159) that it did not have jurisdiction to rule on the patentability of the amended claims or the new claim.

APPELLANT'S APPLICATION

Appellant's application relates to a bottle-washing machine shown in the drawings (135-141). The machine comprises a pair of parallel, spaced conveyor chains 20 (See Figs. 2 and 4) carrying between them a series of rigid frames 30 having partitions 31 forming compartments for receiving the individual bottles. Each compartment has a pair of clamping jaws 33, 34 for gripping the bottle adjacent the mouth thereof and holding it perpendicular to the path of travel of the frame. One jaw 33 of each clamp is movable and is spring pressed into gripping position. At one place in the path of movement of the frames, there is an un-

loading station H where the bottles are released from the clamps and ejected from the frame. Adjacent this station are stationary cams 52 which engage the portion 43 of the movable jaws of the clamps and move them to released position thus freeing the bottle for removal. At another place in the path of movement of the frames is a loading station A where similar cams 53 engage the movable clamp jaws to open them to allow insertion of the bottles. At this station there is provided a member 62 (Fig. 2) for supporting the bottles temporarily while the clamps are in released position. By the time the bottles have passed off the end of the support 62, the clamping jaws 33, 34 have again gripped the bottle.

ARGUMENT

Questions Involved

Two questions are involved in this appeal. First, does any of the appealed claims 1, 4, 6, 7, 52, and 53 recite anything amounting to an invention over the prior patents cited against them? Second, did the lower court err in holding that it was without jurisdiction to rule on the patentability of claims which were refused entry by the examiner and were not considered by the Board of Appeals of the Patent Office?

Summary of Argument

1. The claims on appeal are either fully anticipated by certain of the prior art patents or involve only such modifications as would be obvious to those skilled in the art. Such modifications of the devices disclosed by Wachs et al., Wynne et al., and Rüprich, as may

be necessary to meet the appealed claims, are clearly suggested in the prior art, and such modifications did not produce any improvement in operation that would not have been obvious in advance.

2. The claims in amended form and the new claim which were refused entry by the examiner and were not considered by the Board of Appeals were not "refused" within the meaning of Section 4915 R. S. The lower court properly ruled that it did not have jurisdiction.

The prior art

The Wynne et al. Patent

The Wynne et al. patent, No. 1,934,250, dated November 7, 1933 (118-124), discloses a bottle washing machine in which the bottles are carried in compartments 66 of frames 65 which are moved in an endless path by parallel conveyor chains 63, 64. (See Fig. 5.) The individual bottle compartments 66 (see Fig. 6) are formed with spring fingers 67. These fingers are sufficiently yieldable to allow the bottle to be pushed through them by a plunger 153 at the unloading station. (See Fig. 4.) Appellant's witness Mr. Fogg, who is one of the applicants in the instant application, gave it as his opinion (16, 17) that the spring fingers 67 do not grip the bottles but merely prevent them from dropping out during the upper run, where they are inverted, and that in the lower run, where they are upright, the strip 73 is necessary to support them in the compartments. It appears, however, from the following excerpts from the specification of the patent that the spring fingers 67 contact

the bottle necks tightly enough to hold the bottles in place:

* * * which carriers have spring fingers for normally retaining the bottles therein against accidental displacement (121, lines 91-93).

It is understood that in the bottom run of the conveyor the bottle carriers are upright, that is with the spring fingers 67 extending upwardly and in the top run the carriers are inverted, that is the fingers 67 extending downwardly. Thus in bottom run holding the bottles erect and in the top run inverted or reversed in position (123, lines 7-13).

In any event the bottle holders of the present invention allow insertion or removal of a bottle from either end of the carrier and includes spring fingers for normally retaining bottles within such carriers as the same are moved to the washing machine (124, lines 53-58).

Whether or not the spring fingers 67 are so made as to grip the bottle necks tightly enough to form the sole support for the bottles, appears to be merely a matter of design. It is submitted that the fingers could be forced inwardly to provide a tight grip on the bottles without the exercise of invention. Each of the fingers is movable independently of the others, as claims 1, 4 and 52 recite. Claims 1 and 4 also recite that the frame has side walls and transverse partitions forming the bottle receiving openings. But it is submitted that the frame structure disclosed by Wynne et al. is the full equivalent of that claimed. Moreover the claimed structure is substantially disclosed in the Goldman and Herold et al. patents which will now be discussed.

The Goldman Patent

The patent to Goldman, No. 1,021,843, of December 26, 1911 (86-94), discloses a bottle conveyor for use in a washing machine. In this apparatus there is a series of frames 10 made of side walls 11 and transverse partitions 12 forming bottle-receiving compartments. The compartments are restricted at one end 14 to prevent escape of the bottles and there is provided at the other end a movable gate which retains the bottles loosely in the compartments. The series of frames is carried by and between endless conveyor chains 18, one of which is shown in dotted lines in Fig. 3 (88).

The Herold et al. Patent

The patent to Herold et al., No. 1,824,993, of September 29, 1931 (110-115), shows a bottle-washing apparatus in which a series of bottle holding frames 4 is carried between endless chains 1. The frames have partitions 5 providing compartments for the individual bottles. The bottles are loosely confined in the compartments.

In view of the patents just discussed, the lower court found (158, finding 13) that no invention was involved in substituting a carrier in the form of a partitioned frame for the type of bottle carrier 65 used by Wynne et al. It is submitted therefore that claims 1, 4, and 52 are unpatentable.

The Wachs et al. Patent

The patent to Wachs et al., No. 1,213,308, of January 23, 1917 (96-104), relates to a bottle conveyor for use in connection with a washer. The device as a

whole is shown in Fig. 1 (96). It consists of an endless chain travelling on track 13 (Fig. 2) and having bottle holders connected thereto at opposite sides. The holders are in the form of pivoted jaws 19 normally held in clamping position around the necks of the bottles by springs 27. Each of the jaws of each pair is movable independently of the other jaw. The specification states (101, lines 42 to 44) that the bottles are securely clamped and locked to the conveyor and (103, line 88) securely held in position. It will be observed that the clamping faces of the jaws are of angular shape (Fig. 2) so that they engage the bottle neck at spaced points of its periphery. At the loading and unloading station the apparatus has stationary cams 31 which come into engagement with the clamps and open them so that washed bottles may be removed and unwashed bottles inserted. Whether or not the spring 27 is strong enough to make the jaws hold the bottles firmly without support by the socket 19, is not expressly stated in the patent, but from the showing in Fig. 5 (98) this appears to be the case. As to this matter the examiner said (149) that "to make the jaw-actuating spring strong enough to hold the bottle by the jaws alone is deemed a matter of degree and adjustment, affected by the size of the article." The Board of Appeals said (153):

The claim indicates that applicants rely on the strength of the springs but we do not consider this feature as structurally differentiating from Wachs et al.

The claimed arrangement of spaced conveyor chains carrying frames between them seems to differ from the

Wachs et al. arrangement only in design, since the arrangement is shown in the patents to Goldman (86), Herold et al. (112), and Wynne et al. (118).

The lower court found (159, Finding No. 16) that it was not invention to make the springs 27 strong enough to hold the bottle out of contact with other parts of the device and to constitute the sole support of the bottle.

Claims 52 and 53 (5) are substantially met by the Wach et al. patent and are, it is submitted, unpatentable.

The Rüprich Patent

The German patent to Rüprich, No. 524,003, of January 3, 1929 (131-134), relates to a bottle conveyor for a bottle-washing machine in which holders for a plurality of bottles are moved along by endless conveying means, such as chains. Each holder consists of a plate *a* having openings to receive bottles and clamps below the plate to engage the necks and mouths of the bottles. Each clamp consists of a stationary part *b* carried by the plate and a movable part *i* which is spring pressed to clamp the bottle neck between the parts *i* and *b*. The part *b* has a horizontal ledge *c* at the bottom on which the bottle mouth rests. This ledge serves to support the bottle in clamping position while the clamp is released. Stationary cams (Fig. II) are provided at a loading and unloading station for contacting with the rollers *d* and moving the clamps *i* to released position.

The ledge *c* performs the same function of supporting the bottles temporarily, while the clamp is released, as that performed by the strip 62 (137) of

appellant's apparatus. The patent thus discloses the bottle-supporting means recited in claims 6 and 7 (4). These claims are substantially met by the Rüprich patent.

The disclosure made by Rüprich would be clear to anyone skilled in the art. Therefore the decisions cited by appellant (Brief, p. 40) as to the effect to be given a vague disclosure in a foreign publication, do not apply.

From a consideration of the prior art it appears that the general arrangement of the device as set forth in the appealed claims is old as the patents to Goldman, Herold et al., Wynne et al., and Rüprich show; that the particular frame structure claimed is shown in the Goldman and Herold et al. patents; that the bottle-clamping means as claimed is shown by Wachs et al. and Rüprich; and that the claimed means for supporting the bottles while the clamps are released is also found in Rüprich. Thus the arrangement of parts and the structure thereof as set forth in the appealed claims are found in the prior art.

"The selection and putting together of the most desirable parts of different machines in the same art, where each separate part is selected solely to perform the obvious purpose for which it was used in the prior art, is not invention, but rather the evolution of the mechanical ability of one skilled in that particular art." *Adams et al. v. Galion Iron Works & Mfg. Co.*, 42 F. (2d) 395, C. C. A. 6, and authorities cited therein. The same principle is followed by other courts. *In re Ackenbach*, 18 C. C. P. A. 769, 45 F. (2d) 437; *In re Ness*, 18 C. C. P. A. 918, 45 F. (2d)

375; *Frick-Gallagher Mfg. Co. v. Ro-Tray Corp. et al.*, 122 F. (2d) 81, 74 App. D. C. 315.

Appellant in its brief contends that the commercial success of its apparatus is indicative that it amounted to an invention. Appellee does not dispute this, for 15 claims of the application have been allowed. It does not follow however from the fact that a device is commercially successful that every claim of whatever scope drawn to the device is patentable. There is evidence that appellant's apparatus has had some acceptance, but no evidence that the acceptance is so great as to supplant others in the market. The authorities cited by appellant are therefore not pertinent.

The claims as Amended and the New Claim

In the complaint (5-7) appellant included claims 1, 4, 6, 7, and 52 in amended form and also a new claim 57. These claims were not presented in the Patent Office until after the Board of Appeals had rendered its decision on the claims previously in the case. The examiner refused (54) to enter the amendments or the new claim and the Board of Appeals refused (60) to consider such claims. The lower court held (159) that it did not have jurisdiction to rule on the patentability of such claims in an action under Section 4915 R. S.

Appellant argues that the lower court had jurisdiction to consider such claims and should have done so. Appellant discusses the decision of this Court in *Lucke et al. v. Coe*, 69 F. (2d) 379, 63 App. D. C. 61, and points out that in that case the new claims were presented for the first time in the court. The claims had never been presented to the Patent Office. In the

present case the new claims, that is, the claims in amended form and the single new claim, were presented in the Patent Office but not considered by the Board of Appeals. This difference is not important in determining the question of jurisdiction. The principle announced in the decision is that since Congress has set up the Patent Office for the purpose of passing on claims for a patent, it was not the intent of Congress that the Court should be called upon to pass on claims in the first instance. Moreover this Court has ruled that an action under Section 4915 R. S. must be confined to the invention claimed in the Patent Office. *American Steel and Wire Co. v. Coe*, 105 F. (2d) 17, 70 App. D. C. 138.

In *Shoemaker v. Robertson*, 54 F. (2d) 456, 60 App. D. C. 345, this Court said:

In *Butterworth v. United States ex rel. Hoe*, 112 U. S. 50, 68, 5 S. Ct. 25, 28 L. Ed. 656, it was ruled that the remedy by bill in equity under section 4915 R. S. (35 U. S. C. A. sec. 63), applies only when the Commissioner decides to reject an application for a patent on the ground that the applicant is not on the merits entitled to it. In the present case the Commissioner did not reject the application on the merits; he refused to consider it at all.

In *American Cable Co., Inc., et al. v. John A. Roebling's Sons Co. et al.*, 65 F. (2d) 801, 62 App. D. C. 168, this Court with reference to an action under Section 4915 R. S. said:

Courts have jurisdiction over cases brought from the Patent Office only in *ex parte* cases

where a patent has been refused by the Board of Appeals.

In the instant case a patent on the amended claims and a new claim has not been refused by the Board of Appeals. The Board refused to consider them.

Appellant cites the decision in *Degea Aktiengesellschaft et al. v. Coe*, 34 F. Supp. 94, in support of the contention that amended claims which the Board of Appeals refused to consider are to be considered as having been refused within the meaning of Section 4915 R. S. But the record of that case shows that the Court made the following conclusion of law:

1. Proposed new claims 51 and 52 and old claims 36, 37, 38, 40, 41, and 42 as proposed by plaintiff Weidert to be amended, are not before this Court for consideration.

The decision is therefore unfavorable to appellant's contention.

CONCLUSION

For the reasons given it is submitted that claims 1, 4, 6, 7, 52, and 53, which were refused by the Board of Appeals, are unpatentable in view of the prior art, that appellant is not entitled to a ruling on the patentability of amended claims 1, 4, 6, 7, and 52 and the new claim 57, and that the judgment of the lower court should therefore be affirmed.

Respectfully submitted.

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SEPTEMBER 1943.

